



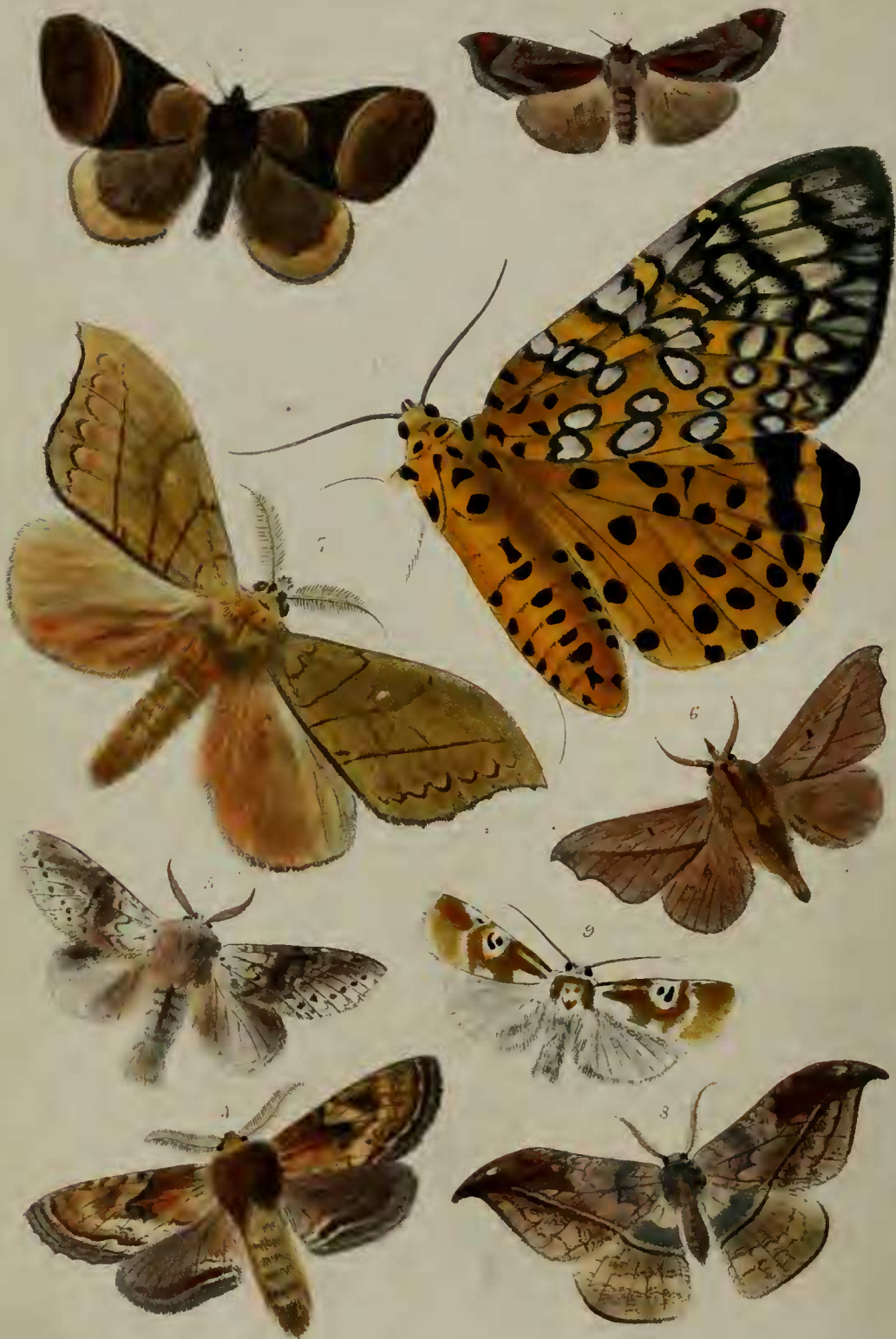
E Cooke lith

M. & N. Hanhart imp

NEW INDIAN LEPIDOPTERA



M & N Hanhart imp



M. & N. Hanhart imp.



THYELLA PULCHRA, H. Adams.

T. *testa subæquilaterali, antice longiore, candida, valvarum superficie costis tenuibus radiantibus et liris excentricis decussata; umbonibus parvis, subrecurvis; margine dorsali excavato; sinu paliali profundo.*

Long. 13, alt. 11, lat. 7 mill.

Hab. Singapore (Coll. Cuming.).

This genus appears to have most affinity with *Seucle*, but differs in the absence of lateral teeth, in its more ventricose form, and in the position of the internal ligament. The surface of the valves of the species described is decussately sculptured by radiating ribs and thin concentric liræ.

I avail myself of this opportunity to state that the genus *Leuconyx*, some time since described by my brother and myself, must be cancelled, as we have recently had an opportunity of proving that it is founded upon the internal spathulate appendage of *Pholas costata*. The name *Plectostoma* also, which I gave lately to a very peculiar form of *Helix* from Labuan, must be considered a synonym of *Opisthostoma*, Blanford, which was established to receive a small shell from India, much more Pupa-shaped than the type of *Plectostoma*, but, I think, belonging to the same group, and which has hitherto been supposed to be furnished with an operculum, and to be allied to *Diplommatina*.

12. ON THE LEPIDOPTEROUS INSECTS OF BENGAL.

By FREDERIC MOORE.

(Plates XLI., XLII., XLIII.)

Excepting a brief list of Lepidopterous Insects from the N.W. Himalaya, compiled by Kollar and published in Hügel's 'Kaschmir,' and another by myself, printed in the 'Proceedings' of this Society for the present year, of a collection of Diurnal Lepidoptera recently made in nearly the same districts by Capt. A. M. Lang, no record has appeared of the many very interesting "local" Indian collections that have so frequently been formed. In the following pages a list is given of the species contained in a very extensive collection made in the Province of Bengal by Mr. A. E. Russell, of the Bengal Civil Service, who has kindly placed them in my hands for this purpose, and of others collected in the same Province by Mr. W. S. Atkinson and the late Capt. J. Lind Sherwill.

Sect. I. RHOPALOCERA.

Tribe 1. PAPILIONES.

Fam. PAPILIONIDÆ.

ORNITHOPTERA RHADAMANTHUS, Boisd. Spéc. Gén. Lép. i. p. 180.



O. POMPEIUS, Cram. Pap. t. 25. f. A.

PAPILIO MACAREUS, Godt. (Horsf. Cat. Lep. E. I. C. 1829, t. 5 f. 1).

Hills, Darjeeling.

P. XENOCLES, Doubleday (Westw. Arc. Ent. pl. 92. f. 1).

Hills and plains.

P. DISSIMILIS, Linn. (Cram. t. 82. f. C, D).

P. PANOPE, Linn. (Cram. t. 295. f. E, F).

Bauleah.

Note.—*P. dissimilis* and *P. panope* taken in *coitu*.—*A. E. Russell*.

P. CASTOR, Westw. Arc. Ent. pl. 80. f. 1, 2.

P. POLLUX, Westw. ib. pl. 90. f. 1.

P. AGESTOR, Gray, Ins. of Nepal, pl. 4. f. 2 (Westw. Arc. Ent. pl. 16. f. 2).

Darjeeling.

P. EPHYCIDES, Hewits. Exot. Butt. pl. 6. f. 1.

Hills, Darjeeling.

P. SCLATERI, Westw.

Darjeeling.

P. PAMMON, Linn. (Cram. t. 141. f. B.)

Bauleah.

P. POLYTES, Linn. (Cram. t. 265. f. A-C.)

Bauleah.

P. ROMULUS, Cram. t. 43. f. A.

Bauleah ; plains of Bengal.

P. HECTOR, Linn. (Cram. t. 141. f. A).

Central Bengal.

P. DIPHILUS, Esper, Ausl. Schmett. t. 40. f. 1.

Bauleah ; plains of Bengal.

P. VARUNA, White (Westw. Arc. Ent. pl. 66. f. 1, 2).

P. RHETENOR, Westw. Arc. Ent. pl. 16. f. 1, 1 a.

P. PROTENOR, Cram. t. 49. f. A, B.

P. POLYMNESTOR, Cram. t. 53. f. A, B.

Plains of Bengal.

- P. ANDROGEOS, Cram. t. 91. f. A, B.  
Dacca.
- P. PHILOXENUS, Gray, Ins. of Nepal, pl. 2; Westw. Cab. Orient. Ent. pl. 40. f. 2 ♀, 3 ♂.
- P. DASARADA, Moore, Cat. Lep. Mus. E. I. C. i. p. 96 (Westw. Cab. Orient. Ent. pl. 40. f. 5, ♂).
- P. ICARIUS, Westw. ib. pl. 2.
- P. HELENUS, Linn. (Cram. t. 153. f. A, B).
- P. CHAON, Westw. Arcana Ent. pl. 72. f. 1, 2.  
Hills, Darjeeling.
- P. PARIS, Linn. (Cram. t. 103. f. A, B).  
Lower hills.
- P. GANESA, Doubleday, Gray's Zool. Misc. p. 73.  
Lower hills, Darjeeling.
- P. ARCTURUS, Westw. Arc. Ent. pl. 27.  
High hills.
- P. KRISHNA, Moore, Catal. Lep. Mus. E. I. C. pl. 2 a. f. 6.  
High hills.
- P. CRINO, Fabr. (Guérin, Rev. Zool. 1840, t. 1. f. 1.)  
Plains of Bengal; near the sea.
- P. ERITHONIUS, Cram. t. 232. f. A, B.  
Bauleah.
- P. AGAMEMNON, Linn. (Cram. t. 106. f. C, D).  
Hill-tops.
- P. CHIRON, Wallace, Linn. Trans. xxv. p. 66.  
*P. bathycles* of India, *auctorum*.  
Foot of hills.
- P. JASON, Esper, Ausl. Schmett. t. 58. f. 5.  
Balasore.  
Larva feeds on *Michelia champa* and *Uvaria longifolia*.—*A. Grote*.
- P. SARPEDON, Linn. (Cram. t. 122. f. D, E).
- P. CLOANTHUS, Westw. Arc. Ent. pl. 11. f. 2.
- P. ANTIPHATES, Cram. t. 72. f. A, B.  
Balasore; lower hills.

P. ANTICRATES, Doubleday (Catal. Lep. B. M. pt. 1, pl. 3. f. 3).  
Hills.

5. P. NOMIUS, Esper, Ansl. Schmett. t. 52. f. 3.

Plains.

Abounds in the vicinity of Calcutta and other parts of Bengal during the dry hot season.—*E. Blyth*.

P. GLYCERION, Gray, Ins. of Nepal, pl. 3. f. 2; Westw. Arc. Ent. pl. 55. f. 3.

High hills.

LEPTOCIRCUS CURIUS, Fabr. (Donov. Ins. of Ind. pl. 47. f. 1; Genera of Diurn. Lep. pl. 4\*. f. 1).

Found only on the slopes of the hills to the eastward and north-eastward.—*A. Grote*.

L. MEGES, Zink. Sm. Nova Acta, xv. p. 161.

? Bengal.

TEINOPALPUS IMPERIALIS, Hope, Trans. Linn. Soc. xix. pl. 11. f. 1, 2, ♂; Westw. Arc. Ent. pl. 60, ♀.

Hills over 9000 feet elevation.

CALINAGA BUDDHA, Moore, Catal. Lep. Mus. E. I. C. pl. 3 a. f. 5.

Lower hills.

#### Fam. PIERIDÆ.

PIERIS PASITHOË, Linn. (Cram. t. 43. f. D, E).

P. THISBE, Cram. t. 233. f. C.

P. BELLADONNA, Fabr. (H.-Schff. Pap. Exot. f. 13, 14).

Valleys of the lower hills.

P. EUCHARIS, Drury, Ins. ii. pl. 10. f. 5, 6.

Larva feeds on *Loranthus*.—*A. Grote*.

P. HIERTE, Hübn. Zuträge, f. 77, 78.

Plains of S.E. Bengal.

P. AGOSTINA, Hewits. Exot. Butt. pl. 1. f. 1, 2.

Lower hills and upwards to 7000 feet.

P. DESCOMBESI, Boisd. Spéc. Gén. Léop. i. p. 465.

Lower hills.

P. CLEMANTHE, Doubleday, Ann. Nat. Hist. xvii. p. 23.

Valleys of the lower hills.



*P. THESTYLIS*, Doubleday, Gray's Zool. Misc. p. 76, ♂.

*P. seta*, Moore, P. Z. S. 1857, pl. 44. f. 3, ♀.  
Hills.

*P. ROUXI*, Boisd. Spéc. Gén. Lép. i. p. 481.

*P. HIPPO*, Cram. t. 195. f. B, C.

Hill (Darjeeling).

*P. LIBYTHEA*, Fabr. Ent. Syst. iii. 1. p. 190.

*P. zelmira*, Cram. t. 320. f. E, F, ♀, nec f. C, D.

*P. NERISSA*, Fab. Ent. Syst. iii. 1. p. 192.

*P. zelmira*, Cram. t. 320. f. C, D, ♀.  
Plains.

*P. NEOMBO*, Boisd. Spéc. Gén. Lép. i. p. 539.

*P. COLIMBA*, Boisd. ♂.

*P. indra*, Moore, P. Z. S. 1857, pl. 44. f. 5, ♀.

*P. LALAGE*, Doubleday and Hewits. Gen. Diurn. Lep. pl. 6.  
f. 5, ♀.

*P. durvasa*, Moore, P. Z. S. 1857, pl. 44. f. 6, ♂.

Rare in the plains; common in the hills.

*P. MESENTINA*, Cram. t. 270. f. A, B.

Common everywhere but hills.

Larva feeds on *Zizyphus* and on *Capparis sepiaria*.—*A. Grote*.

*P. CORONIS*, Cram. t. 44. f. B.

*P. HIRA*, Moore, P. Z. S. 1865, p. 490, pl. 31. f. 17.

*P. NAMA*, Doubleday (Moore, P. Z. S. 1857, pl. 44. f. 1, 2, ♂ ♀).

Lower hills.

*P. GLICIRIA*, Cram. t. 171. f. E, F.

Hills (Darjeeling).

*PONTIA NINA*, Fabr. Ent. Syst. iii. pt. 1. p. 194.

*HEBOMOIA GLAUCIPPE*, Linn. (Cram. t. 164. f. A-C.)

*THESTIAS ÆNIPPE*, Cram. t. 105. f. C, D. t. 229. f. B, C.

Balasore; Malda.

*T. MARIANNE*, Cram. t. 217. f. C-F.

*T. PYRENE*, Linn. (Cram. t. 127. f. A-C).

*CALLIDRYAS PYRANTHE*, Linn. (Cram. t. 58. f. A-C.)

Malda.

C. PHILIPPINA, Cram. t. 361. f. C, D.

C. HILARIA, Cram. t. 339. f. A, B.

Bauleah ; Malda.

C. ALCMEONE, Cram. t. 141. f. E.

Bauleah ; Dacca.

DERCAS VERHUELLI, Van der Hoeven, Tijds. voor Nat. Gesch. t. 8.  
f. 3, 4.

COLIAS EDUSA, var.

*C. fieldii*, Ménétr. Catal. Lep. Mus. Imp. Acad. St. Petersb. t. 1.  
f. 1.

IDMAIS CALAIS, Cram. t. 53. f. C, D.

Balasore ; plains near the coast.

TERIAS HECABE, Linn. (Cram. t. 124. f. B, C).

T. DRONA, Horsf. Catal. (1829) t. 1. f. 13,

T. LETE, Boisd. Spéc. Gén. Léop. i. p. 674.

Cuttack.

T. HARINA, Horsf. Cat. (1829) p. 137.

ERONIA VALERIA, Cram. t. 85. f. A.

Plains.

E. AVATAR, Moore, Cat. Lep. Mus. E. I. C. i. pl. 2 a. f. 1.

Hills.

Fam. DANAIDÆ.

TELCHINIA VIOLEÆ, Fabr. (Cram. t. 298. f. D, E).

Plains.

PAREBA VESTA, Fabr. (Cram. t. 228. f. A-C).

Hills, Darjeeling.

Larva feeds on *Passiflora* and *Thunbergia*.—*A. Grote*.

DANAIS LIMNIACÆ, Cram. t. 59. f. C, D.

Hills.

D. MELISSA, Cram. t. 377. f. C, D.

Plains.

D. MELANEUS, Cram. t. 30. f. D.

Hills.

D. AGLEA, Cram. t. 377. f. E.

Hills.

D. TYTIA, Gray, Ins. of Nepal, pl. 9. f. 2.  
Hills.

D. PLEXIPPUS, Linn. (Cram. t. 206. f. C, D).  
Plains.

D. HEGESIPPUS, Cram. t. 180. f. A.  
Plains, South Bengal.

D. CHRYSIPPUS, Linn. (Cram. t. 118. f. B, C).  
Plains up to the lower hills.

EUPLOEA RHADAMANTHUS, Fabr. (Jones, Icon. t. 45. f. 2).  
Hills. Does not occur in the plains.

E. CORE, Cram. t. 266. f. E, F.  
Plains.

E. MIDAMUS, Linn. (Cram. t. 127. f. C, D, ♂; t. 266. f. C, ♀).

E. DOUBLEDAYI, Westw.

E. DEIONE, Westw. Cab. Orient. Ent. pl. 37. f. 3.

Fam. NYMPHALIDÆ.

VANESSA CASHMIRENSIS, Kollar, Hügel's Kasch. iv. t. 9. f. 3, 4.

V. CHARONIA, Drury, Ins. pl. 15. f. 1, 2.  
Hills.

PYRAMEIS CARDUI, Linn.  
Plains.

P. CALLIRHOË, Hübn. (Cram. t. 84. f. E, F).

JUNONIA GENONE, Linn. (Cram. t. 35. f. A-C).  
Plains.

J. LEMONIAS, Linn. (Cram. t. 35. f. D-F).

J. ORITHYIA, Linn. (Cram. t. 19. f. C, D, ♂).

J. LAOMEDIA, Linn. (Cram. t. 8. f. F, G).

J. ASTERIE, Linn. (Cram. t. 58. f. D, E).  
Plains.

J. ALMANA, Linn. (Cram. t. 58. f. F, G).  
Plains.

Larva feeds on *Gloxinia* and *Osbeckia*.—*A. Grote*.

PRECIS IPHITA, Cram. t. 209. f. C, D.



P. HARA, Moore, Cat. Lep. Mus. E. I. C. i. pl. 3 a. f. 1.

Hills.

ERGOLIS ARIADNE, Linn. (Cram. t. 144. f. G, H).

CYNTHIA ARSINOË, Cram. t. 160. f. A, B, ♂.

Lower hills.

CYRESTIS THYODAMUS, Boisd. (Doubleday & Hewits. Diurn. Lep. pl. 32. f. 3; Hügel's Kasch. iv. pl. 7. f. 3, 4).

Hills.

Settles on the underside of leaves, with the wings distended.—  
*W. S. Atkinson.*

C. RISA, Doubl. & Hewits. ib. p. 262, pl. 32. f. 4.

PARTHENOS GAMBRISIUS, Fabr. (Doubl. & Hewits. ib. pl. 51. f. 2).

South-east Bengal.

CIRROCHROA AORIS, Doubl. & Hewits. ib. pl. 21. f. 1.

Hills.

CETHOSIA BIBLIS, Drury, Ins. i. pl. 4. f. 2.

Hills.

C. CYANE, Fabr. (Drury, Ins. i. pl. 4. f. 1).

Plains and Terai.

ARGYNNIS CHILDRENI, Gray, Ins. of Nepal, pl. 11.

Higher hills, Darjeeling.

A. NIPHE, Linn. (Cram. t. 14. f. B-E).

Hills.

A. ISSÆA, Gray, ib. pl. 11.

Hills.

MESSARAS ERYMANTHIS, Drury, Ins. i. pl. 15. f. 3, 4.

Plains.

ATELLA EGISTA, Cram. 281. f. C, D.

Hills.

A. PHALANTA, Drury, Ins. i. pl. 21. f. 1, 2.

LAOGONA HIPPOCLA, Cram. t. 220. f. C, D.

L. HYPSELIS, Godt. (Doubl. & Hewits. Diurn. Lep. pl. 25. f. 1).

DIADEMA BOLINA, Linn. (Cram. t. 65. f. E, F).

Var. *inaria*, Cram. t. 214. f. A, B.—Taken at Balasore.

- D. AUGE, Cram. t. 190. f. A, B.
- PENTHEMA LISARDA, Doubl. & Hewits. Diurn. Lep. pl. 39. f. 3.
- EURIPUS HALITHERSES, Doubl. & Hewits. ib. pl. 51. f. 2.
- E. ISA, Moore, Cat. Lep. Mus. E. I. C. i. p. 161, ♀.
- E. haliartus*, Felder, Wien. Ent. Monat. iv. p. 234.
- E. NYCTELIUS, Doubleday, Ann. Nat. Hist. xvi. p. 182, ♀.
- HESTINA NAMA, Boisd. ; Doubleday & Hewits. pl. 39. f. 2.  
Higher hills.
- H. PERSIMILIS, Westw. & Hewits. Diurn. Lep. p. 281.
- NEPTIS HORDONIA, Stoll, Suppl. Cram. t. 33. f. 4.  
Plains.
- N. MIAH, Moore, Cat. Lep. Mus. E. I. C. i. pl. 4 a. f. 1.  
Hills.
- N. VIKASI, Horsf. Catal. Lep. Mus. E. I. C. 1829, pl. 5. f. 2.  
Hills.
- N. COLUMELLA, Cram. t. 296. f. A, B (Moore, P. Z. S. 1858,  
pl. 49. f. 5, ♂ ♀).
- N. SOMA, Moore, P. Z. S. 1858, pl. 49. f. 6.
- N. NANDINA, Moore, Cat. Lep. Mus. E. I. C. i. pl. 4 a. f. 7.
- N. MATUTA, Hübn. (Cram. t. 296. f. E, F).
- ATHYMA LEUCOTHÖË, Linn. (Cram. t. 203. f. E, F).
- A. MAHESA, Moore, Cat. Lep. Mus. E. I. C. pl. 5 a. f. 7.
- A. BAHULA, Moore, P. Z. S. 1858, pl. 50. f. 2.  
Darjeeling.
- A. SUBRATA, Moore, P. Z. S. 1858, pl. 51. f. 1, ♀.
- A. CHEVANA, n. sp. (Pl. XLI. f. 1.)

*Male.* Upperside dark brown ; markings pale buff yellow. Fore wing with uninterrupted discoidal streak, terminated by two oblique spots ; a transverse discal series of irregular-shaped spots, a submarginal row of small spots, and indistinct marginal narrow streaks. Hind wing with a broad transverse band, a submarginal lunulated band, and indistinct marginal narrow streaks. Body with pale buff-yellow waist-band and abdominal rings. Underside—fore wing with the markings as above, the interspaces ferruginous brown suffused with dark brown posteriorly, except along the base of the costa and triangularly before the apex, which is pale nacreous blue ; hind wing

with a narrow transverse discal and marginal ferruginous-brown band, the rest of the wing pale nacreous blue, the broad transverse and lunulated submarginal band being paler nacreous white; a black dot on lower part of disk.

Expanse  $2\frac{1}{2}$  inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*Remark.*—The whole underside of this species is very similar to that of *Apatura ambica*; and Mr. W. S. Atkinson has informed me that in fresh-captured specimens the upperside has also the beautiful reflected purple gloss visible in that insect.

A. JINA, Moore, Cat. Lep. Mus. E. I. C. i. pl. 5 a. f. 3.

A. SELENOPHORA, Kollar, Hügel's Kasch. iv. t. 7. f. 1, 2, ♂.

A. INARA, Doubleday & Hewits. Diurn. Lep. pl. 34. f. 3, ♂  
(Moore, P. Z. S. 1858, pl. 50. f. 6, ♂ ♀).

A. CAMA, Moore, Cat. Lep. Mus. E. I. C. i. pl. 5 a. f. 5.

ABROTA GANGA, Moore, ib. i. pl. 6 a. f. 1, ♂ ♀.

*Adolias confinis*, Felder, Wien. Ent. Monat. iii. p. 183, t. 4. f. 3,  
♀ (1862).

Hills, Darjeeling.

A. JUMNA, n. sp.

*Male.* Similar to *A. ganga*; but differs on the upperside in being of a pale yellowish ferruginous, the black markings much less defined, and in having the submarginal and medial lunulated bands of the hind wings geminated. On the underside the markings are much less prominent, the geminated sinuous band being apparent as on the upperside.

*Female.* Differs from that sex of *A. ganga* on the upperside in being brown, and in having the markings ferruginous; whereas in *A. ganga* the upperside is olive-brown, and the markings suffused olive-green.

Expanse of ♂  $2\frac{7}{8}$ , ♀  $3\frac{1}{2}$  inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

LIMENITIS PROCRIS, Cram. t. 106. f. E, F.

Plains of S.E. Bengal and lower hills.

L. ZULEMA, Doubl. & Hewits. Diurn. Lep. pl. 34. f. 1.

Hills.

L. ISMENE, Doubl. & Hewits. ib. pl. 34. f. 2.

Hills.

L. ZAYLA, Doubl. & Hewits. ib. pl. 35. f. 4.

Hills.



L. DARAXA, Doubl. & Hewits. Diurn. Lep. pl. 34. f. 4.  
Hills. Rare.

L. DANAVA, Moore, Cat. Lep. Mus. E. I. C. pl. 6 a. f. 2.  
Hills.

L. DUDU, Westw. & Hewits. Diurn. Lep. Mus. p. 276.  
Hills.

HERONA MARATHUS, Doubl. & Hewits. ib. pl. 51. f. 3.

CASTALIA CHANDRA, Moore, Catal. Lep. Mus. E. I. C. i. pl. 6 a.  
f. 4.

Lower hills.

APATURA AMBICA, Kollar, Hügel's Kasch. iv. t. 8. f. 3, 4.

A. PARISATIS, Westw. & Hewits. Diurn. Lep. p. 305.  
Lower hills,

A. PARVATA, Moore, Cat. Lep. Mus. E. I. C. i. pl. 6 a. f. 6.

A. SORDIDA, n. sp. (Pl. XLI. f. 2.)

*A. sordida*, Atkinson, MS.

*Male.* Upperside fuliginous brown, the fore wing black at the apex; fore wing with oblique discal bands of white spots, adjoining which is a single and before the apex two white dots; hind wing with a dark-brown pale-bordered marginal line and submarginal spots. Underside brownish grey, brown apically; fore wing with the oblique discal band of white spots, the lower spot having a black yellow-bordered ocellus; apical spots and marginal streaks white; hind wing with a transverse discal brown line bordered anteriorly with white spots, a marginal pale-bordered brown line, on the lower part of the disk is an ocellus having a black pupil streaked with blue, yellow iride, and brown outer border.

*Female.* Upperside paler, with a broad oblique uninterrupted white band; otherwise as in male. Underside pale brownish grey; the broad oblique band of fore wing as on upperside; the rest as in male.

Expanse of ♂  $2\frac{1}{8}$ , of ♀  $2\frac{1}{2}$  inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

HEL CYRA HEMINA, Hewits. Ent. Trans. 1864, pl. 15. f. 1.  
Darjeeling.

ADOLIAS ALPHEDA, Godt. (Moore, Ent. Trans. v. pl. 3. f. 4, ♂ ♀).

A. GARUDA, Moore, Catal. Lep. Mus. E. I. C. i. p. 186; Ent.  
Trans. v. pl. 3. f. 2, ♂ ♀.

Plains.

A. PHEMIUS, Doubleday, Westw. & Hewits. Diurn. Lep. pl. 41. f. 4, ♂ (Moore, Ent. Trans. v. pl. 3. f. 3, ♂ ♀).

A. KESAVA, Moore, Ent. Trans. v. pl. 3. f. 5 (male only).

A. SANANDA, Moore, ib. v. pl. 7. f. 3, ♂.

A. APIADES, Ménétériés, Lep. Mus. Acad. Sci. Petersb. t. 9. f. 4, ♂ (1857).

*A. sedeva*, Moore, Trans. Ent. Soc. v. pl. 4. f. 3, ♀.

A. TELCHINIA, Ménétériés, ib. t. 9. f. 3, ♂.

A. APHIDAS, Hewits. Exot. Butt. (1862) pl. 8, ♀.

? *A. telchinia*, female.

Hills.

A. BALARAMA, n. sp. (Pl. XLI. f. 3.)

*Male*. Upperside dark olive-brown; fore wing with the basal marks black, two transverse discal suffused black lines, the interspace anteriorly being brownish white; hind wing with the basal marks and two transverse discal sinuous lines black, the space between the outer line of the latter and the exterior margin of the wing slaty blue. Underside greenish grey, suffused with yellow; fore wing dull chrome-yellow medially; markings as above, black, the transverse series on the fore wing formed inwardly by irregular-shaped marks, and outwardly by suffused spots terminating anteriorly with white spots, those on the hind wing by increasing black spots surrounded with slaty blue.

Expanse  $2\frac{1}{2}$  inches.

North India. In Coll. F. Moore.

A. LUBENTINA, Cram. t. 155. f. C, D, ♀; Donovan. Ins. China, pl. 36. f. 3, ♂.

Plains.

A. COCYTUS, Fabr. Mant. Ins. ii. p. 29.

A. NESIMACHUS, Boisd., Croch. edit. Cuv. Règ. Anim. t. 139. f. 1. *Argynnis hippomenes*, H.-Schff. Lep. Exot. f. 11, 12.

A. NICEA, Gray, Ins. of Nepal, pl. 12. f. 1.

A. TEUTA, Doubleday & Hewits. Diurn. Lep. pl. 44. f. 2.

A. FRANCIAE, Gray, Ins. of Nepal, pl. 14.

*A. raja*, Felder, Wien. Ent. Monat. iii. p. 397, t. 9. f. 2.

A. DURGA, Moore, Ent. Trans. v. pl. 9. f. 2.

A. SAHADEVA, Moore, ib. pl. 8. f. 3.

A. CONFUCIUS, Westw. in Doubl. & Hewits. Diurn. Lep. p. 291.  
Darjeeling.

A. SIVA, Westw. Cab. Orient. Ent. pl. 37. f. 4.

LEXIAS DIRTEA, Fabr. (Doubl. & Hewits. Diurn. Lep. pl. 44.  
f. 1).

SYMPHÆDRA THYELIA, Fabr. (Donov. Ins. Ind. pl. 31. f. 3).

NYMPHALIS FABIUS, Fabr. (Esper, Ausl. Schmett. t. 59. f. 1).

N. ATHAMAS, Drury, Ill. i. pl. 2. f. 3, 4.

N. BERNARDUS, Fabr. (Kollar, Hügel's Kasch. iv. pl. 11. f. 1, 2).

N. MARMAX, Westw. Cab. Orient. Ent. pl. 21. f. 3-5.

N. DOLON, Westw, ib. pl. 27. f. 2, 3.

Hills,

N. EUDAMIPPUS, Doubleday, Ann. Soc. Ent. France, t. 8.

Hills.

KALLIMA INACHIS, Boisd. Croch. Cuv. Règ. Anim. t. 139. f. 3  
(Hügel's Kasch. iv. t. 9).

Hills.

DOLESCHALLIA BISALTIDE, Cram. t. 102. f. C, D.

THAUMANTIS DIORES, Doubleday, Ann. Nat. Hist. xvi. p. 234.

T. CAMADEVA, Westw. Orient. Ent. pl. 4. f. 1.

DISCOPHORA TULLIA, Cram. t. 81. f. A, B.

D. ZAL, Westw. Ent. Trans. iv. pl. 21. f. 5, 6.

D. CELINDE, Stoll, Suppl. Cram. t. 37. f. 1.

ENISPE EUTHYMIUS, Doubl.; Westw. & Hewits. Diurn. Lep. pl.  
40. f. 2.

NEORINA HILDA, Westw. & Hewits. Diurn. Lep. pl. 65. f. 2, ♂.

Fam. SATYRIDÆ.

DEBIS EUROPA, Fabr. (Cram. t. 79. f. C, D).

Plains.

D. NEILGHERRIENSIS, Guérin, Deless. Voy. Ind. pl. 21. f. 1.

D. VERMA, Kollar, Hügel's Kasch. iv. t. 16. f. 1, 2.



D. ROHRIA, Fabr.

*D. isana*, Kollar, ib. iv. t. 16. f. 3, 4.

D. MEKARA, Moore, Cat. Lep. Mus. E. I. C. i. p. 219.

Darjeeling.

D. CHANDICA, Moore, ib. i. p. 219.

Darjeeling; Cherra Poonjee.

D. VISRAVA, n. sp. (Pl. XLI. f. 4.)

*Male*. Upperside dull brown; fore wing with three small black white-centred ocelli before the apex, and a marginal white line; hind wing with six submarginal blackish spots, the third and last small, bordered outwardly with white; a marginal narrow white lunulated band, and outer dark double line. Underside pale dull brown; fore wing with each apical dot encircled with white; marginal band white; hind wing with purple-white irregular basal lines, seven ocelli, each composed of a black spot with white centre and yellow outer circle, the two last ocelli geminated, all bordered with white, a marginal narrow white lunulated band, and extreme outer marginal yellowish line.

Expanse 2 inches.

N.E. Bengal. In the Coll. of A. E. Russell.

D. SIDONIS, Hewits. Exot. Butt., *Debis*, pl. 3. f. 16.

Darjeeling.

D. NICETAS, Hewits. ib. pl. 3. f. 17, 18.

ZOPHOESSA SURA, Doubl. & Hewits. Diurn. Lep. pl. 61. f. 1.

Z. GOALPARA, n. sp.

*Male*. Upperside glossy olive-brown, palest on the exterior margin; fore wing with a marginal suffused brown line; hind wing with a transverse discal line, a submarginal series of round spots, and marginal lunulated line dark brown. Underside pale glossy greyish olive-brown, suffused with darker brown exteriorly; fore wing with two short bands within the cell, a transverse discal band, and suffused submarginal line dark brown; hind wing with subbasal transverse bifid line and transverse discal sinuous band dark brown, a submarginal series of seven dark brown ocelli, the last two at anal angle geminated, each with a white central dot and yellowish border, the whole having an outer pale whitish border along each side, a marginal line of pale lunules.

*Female* dark olive-brown, pale greyish brown exteriorly; fore wing with a marginal suffused brown line; hind wing with a submarginal series of brown pale-bordered spots, a marginal narrow lunulated pale line bordered with brown. Underside glossy greyish olive-brown, palest exteriorly; markings as in male, but more suffused, those of the hind wing each with a pale border; the submar-

ginal ocelli less defined, the three upper partially covered with blue, the two next wholly so, the geminated last jet-black, the whole of them having each a separate pale-white outer circle; fore wing with three small indistinct subapical ocelli.

Expanse of ♂  $2\frac{1}{2}$ , ♀ 3 inches.

? N.E. Bengal. In Coll. A. E. Russell.

*Z. BALADEVA*, n. sp. (Pl. XLI. f. 5.)

*Male.* Upperside greenish olive-brown; fore wing with three pale apical bands, the first oblique, each extending from the costa to near the posterior angle, the medial band having a linear series of small dark spots: hind wing with a submarginal series of black, pale-ferruginous-bordered spots, the lower spot with a central white dot; a narrow marginal double black line. Underside yellowish olive-brown; fore wing with bands crossing the cell, the oblique discal and submarginal band and marginal line pale yellow, the medial band composed of six small uniform ocelli, each with a black spot having a white dot and pale ferruginous outer circle, the whole bordered inwardly by a silvery-white band: hind wing with a straight silvery-white band from inner margin extending across the cell, beneath which it terminates with yellow; a basal streak, discal and marginal lines yellow; the ocelli seven in number and very prominent, each composed of a jet-black spot with white central dot (the lowest spot with two) and pale ferruginous outer circle, the upper spot bordered with yellow, the others with a silvery-white inner band; space below the last two ocelli ferruginous; marginal lines black.

Expanse  $2\frac{1}{5}$  inches.

N.E. Bengal. In Coll. A. E. Russell.

*CYLLO LEDA*, Linn. (Cram. t. 196. f. C, D).

Plains.

*C. BANKSIA*, Fabr. (Donov. Ins. t. 25. f. 1).

Plains.

*C. VAMANA*, Moore, Cat. Lep. Mus. E. I. C. i. p. 223.

*C. BELA*, Moore, ib. p. 223.

*C. ASWA*, n. sp.

*Male.* Upperside uniform dark brown, without spots or other markings. Underside brown, uniformly covered with short grey striæ: fore wing with four or five more or less defined apical ocelli, each composed of a black spot, white pupil, pale ferruginous iride, and dark-brown outer circle; a marginal band ferruginous brown: hind wing with a transverse discal line and broad marginal band ferruginous brown; a submarginal series of six well-defined ocelli, each composed of a black spot, white pupil, ferruginous iride, and dark-brown outer circle.

Expanse 3 inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

C. SURADEVA, Moore, Cat. Lep. Mus. E. I. C. i. p. 225.

SATYRUS AVATARA, Moore, ib. p. 229.

LASIOMMATA SATRICUS, Doubleday & Hewits. Gen. Diurn. Lep. pl. 64. f. 4.

NEOPE (olim ENOPE) PULAHA, Moore, Cat. Lep. Mus. E. I. C. i. p. 227.

N. BHADRA, Moore, ib. p. 227.

ZIPAËTIS SCYLAX, Hewits. Exot. Butt.

ETHOPE (olim THEOPE) HIMACHALA, Moore, ib. p. 234.

*Neorina sita*, Felder, Wien. Ent. Monat. iii. p. 403.

*Tisiphone sufta*, Boisd. MS. in Coll. B.M. Hills.

MYCALESIS ANAXIAS, Hewits. Exot. Butt.

M. MALSARA, Moore, Cat. Lep. Mus. E. I. C. i. p. 231.

M. SAMBA, Moore, ib. p. 234.

*M. lalassis*, Hewits. Exot. Butt., *Mycalesis*, pl. 4. f. 35.

M. HESIONE, Cram. t. 11. f. C, D.

M. RUNEKA, Moore, Cat. Lep. Mus. E. I. C. i. p. 234.

M. VISALA, Moore, ib. p. 230.

M. OTREA, Cram. t. 314. f. A, B.

M. NICOTIA, Hewits. Gen. Diurn. Lep. pl. 66. f. 4; Exot. Butt., *Mye.*, pl. 1. f. 1.

M. DRUSIA, Cram. t. 84. f. C, D.

YPHTHIMA BALDUS, Fabr. (Donov. Ins. Ind. pl. 36. f. 2).

Y. PHILOMELA, Hübn. Zuträge, f. 83, 84.

MELANITIS UNDULARIS, Fabr. (Cram. t. 256. f. A, B, ♂; t. 189. f. F, G, ♀).

M. VASUDEVA, Moore, Cat. Lep. Mus. E. I. C. i. p. 238. Silhet.

M. MALELAS, Hewits. Exot. Butt.

M. PATNA, Westw. & Hewits. Diurn. Lep. pl. 68. f. 2.

ORINOMA DAMARIS, Gray, Lep. of Nepal, pl. 7. f. 2 (Doubleday & Hewits. Gen. pl. 63. f. 3).

## Fam. LIBYTHEIDÆ.

LIBYTHEA MYRRHA, Godt. (Gray, Lep. of Nepal, pl. 12. f. 4; Boisd. Spéc. Gén. Léop. i. pl. 10. f. 8).

L. LEPITA, Moore, Cat. Lep. Mus. E. I. C. i. p. 240.

## Fam. ERYCINIDÆ.

ZEMEROS FLEGYAS, Cram. t. 280. f. E, F.

SOSPITA ECHERIUS, Stoll, Suppl. Cram. v. t. 31. f. 1.

S. FYLLA, Boisd. (Westw. & Hewits. Diurn. Lep. pl. 69. f. 3).

S. NEOPHRON, Boisd. (Hewits. Exot. Butt. 1860, f. 3).

DODONA EGEON, Boisd. (Westw. & Hewits. Diurn. Lep. pl. 69. f. 2).

D. OUIDA, Hewitson, Exot. Butt. iii. pt. 57 (1865), f. 4, 5, 6 ♂ ♀.

*Taxila erato*, Boisd. MS.

*Male.* Upperside brownish black: fore wing with three transverse discal equidistant ferruginous bands, the medial one broadest, the first two oblique; two white dots at apex: hind wing with transverse discal and two narrow marginal ferruginous bands; anal lobe with a white bar and border. Underside dark ferruginous: fore wing with the transverse bands less defined, yellow, terminating on the costal margin in white spots; two apical white spots: hind wing with bluish basal and purplish medial transverse discal interrupted bands, the latter with an inner border of brown, each having a white spot on the costal margin, that of the latter with a black inner border; two narrow marginal brown bands, two black purple-bordered dots at anterior angle, and black and white lines bordering the black lobe.

*Female.* Dull fuliginous brown, somewhat black apically: fore wing with medial broad transverse discal oblique white band, and an outer or submarginal narrow interrupted ferruginous-white line; two apical dots white: hind wing with two marginal pale-brown lines, terminated at the anterior angle with two pale-bordered black spots; anal lobe black. Underside as in male.

Expanse  $1\frac{3}{4}$  inch.

Bengal. In Coll. A. E. Russell.

## Fam. LYCÆNIDÆ.

PITHECOPS HYLAX, Fabr. Ent. Syst. iii. pt. 1. p. 304.

POLYOMMATUS PUSPA, Horsf. Cat. Lep. E. I. C. (1828) p. 67.

P. KASMIRA, Moore, P. Z. S. (1865) p. 503, pl. 31. f. 1.

P. KARSANDRA, Moore, ib. p. 505, pl. 31. f. 7.

*P. VARUNANA*, n. sp. (Pl. XLI. f. 6.)

*Male.* Upperside dull purple-blue; exterior margins with a slight pale brown border; hind wing with two or three ill-defined blackish, pale-bordered, marginal spots from anal angle. Underside grey; fore wing with a brown, white-bordered spot closing the cell, a transverse row of blackish, white-bordered discal spots, and a double row of marginal white-bordered lunules: hind wing with three transverse subbasal jet-black, white-bordered, round spots, and a fourth on the middle of the costa; a pale-brown streak closing the cell, a discal series of dark-brown spots, a submarginal row of brown lunules, and a marginal series of blackish triangular spots, all bordered with white. Palpi and legs above black, beneath white.

*Female.* Upperside brown; fore wing with a lower basal blue patch, and a narrow black spot closing the cell; hind wing with the black white-bordered marginal spots more defined.

Expanse  $1\frac{2}{12}$  inch.

Bengal. In Coll. A. E. Russell; F. Moore.

*P. KANDURA*, n. sp. (Pl. XLI. f. 7.)

Upperside bright purple-olive: fore wing pale brown on apical and exterior margins; a row of small rounded darker-brown marginal spots. Underside white, at the base greyish white: fore wing with a dark-brown white-bordered spot closing the cell, and a transverse discal series beyond; two marginal rows of dusky lunules: hind wing with a large dark-brown patch on the lower exterior quarter of the wing; a marginal and an irregular discal series of dark-brown white-bordered spots, those crossing the brown patch bordered with darker brown; a double row of marginal dusky lunules.

Expanse  $1\frac{1}{2}$  inch.

Bengal. In Coll. A. E. Russell.

*P. SANGRA*, n. sp. (Pl. XLI. f. 8.)

*Male.* Upperside pale purple blue, the exterior margin pale purple brown. Cilia pale grey. Underside pale grey; fore wing with a blackish white-bordered streak closing the cell, a row of transverse discal spots, a marginal and submarginal row of lunules; hind wing with markings the same, and with an additional subbasal row of three similar spots. Palpi and body beneath and legs white.

Expanse  $\frac{7}{10}$ ths of an inch.

Bengal. In Coll. A. E. Russell; F. Moore.

*LYCENA PARRHASIUS*, Fabr. (Cat. Lep. E. I. C. i. pl. 1. f. 3).

*L. PLUTO*, Fabr. (Donov. Ins. Ind. pl. 45. f. 2).

*L. PLINIUS*, Fabr. (Donov. ib. f. 1).

*L. THEOPHRASTUS*, Fabr. Ent. Syst. iii. 1. p. 281.

*L. ROXUS*, Godt. (Catal. Lep. E. I. C. (1828) pl. 2. f. 4).

Plains and lower hills.



*L. ROSIMON*, Fabr. (Cram. t. 340. f. C-E).

Plains.

*L. PANDAVA*, Horsf. Cat. Lep. E. I. C. (1828) p. 84.

*L. KANDARPA*, Horsf. ib. p. 82.

*L. CNEJUS*, Fabr. Ent. Syst. v. Suppl. p. 430.

*L. BÆTICA*, Linn. (Hübner. Eur. Schmett. t. 74. f. 373).

*L. ELPIS*, Godt. (Catal. Lep. E. I. C. (1828) pl. 1. f. 4).

*L. ALEXIS*, Stoll, Suppl. Cram. t. 38. f. 3.

*L. ÆLIANUS*, Fabr. Ent. Syst. iii. 1. p. 280.

*ILERDA EPICLES*, Godt. Enc. Méth. p. 646.

Darjeeling.

*I. BRAHMA*, Moore, Cat. Lep. Mus. E. I. C. i. pl. 1 a. f. 4, ♂.

*I. TAMU*, Kollar, Hügel's Kasch. iv. pl. 5. f. 7, 8.

Darjeeling.

#### *LYCÆNESTHES*, n. g., Moore.

Eyes hairy. Palpi long, compressed, porrect; third joint long, attenuated, half the length of the second. Legs moderate; femora slightly pilose beneath; mid and hind tibiæ with two short apical spurs. Antennæ slender at the base, thickened near the end, which is finely pointed. Thorax and abdomen robust. Wings moderately broad; fore wing with costal margin arched at the base; apex rather acute, exterior margin slightly oblique; subcostal vein with first branch arising at one-third the length of the wing, second and third equidistant, fourth remote, fifth joined at the base to the third; hind wing rounded exteriorly; two small very fine tail-like fascicles of hair near anal angle.

#### *LYCÆNESTHES BENGALENSIS*, n. sp. (Pl. XLI. f. 9.)

*Male*. Upperside dark purple blue, exterior margins defined by a narrow suffused black line; a small indistinct black spot at anal angle; abdominal margin brown. Underside pale greyish brown; fore wing with a short transverse double white line at the extremity of the cell, enclosing the discal veinlet, beyond which are a transverse discal chain-like white band and an outer indistinct brownish submarginal and a narrow white marginal line: hind wing with basal, discoidal, and a curved discal series of chain-like white bands; an indistinct, inwardly angled, double-lunulated, white marginal line; a black spot bordered above with orange-red near anal angle of exterior margin; a small white-encircled black spot on middle of abdominal margin. Head above brown; eyes encircled with white.

Palpi above and beneath brown, at the sides white. Thorax, body, and legs beneath white.

*Female.* Upperside pale purple brown, with suffused bluish patch at the base; exterior margins suffused with darker brown; hind wing with an inner narrow white exterior marginal line. Underside as in male.

Expanse  $1\frac{1}{4}$  inch.

Bengal. In Coll. A. E. Russell; F. Moore.

*Note.*—Allied to *Dipsas lycænoïdes*, Felder, Lep. Amboin., Sitz. der Akad. Wiss. (1860).

DIPSAS SYLA, Kollar, Hügel's Kasch. iv. t. 4. f. 7, 8, ♂ (Hewits. Ill. Lep. Lyc. pt. 2. pl. 26. f. 3, ♀).

Darjeeling.

DEUDORIX MELAMPUS, Cram. t. 362. f. G, H, ♂.

*Thecla sorya*, Kollar, Hügel's Kasch. iv. t. 5. f. 1, 2.  
Plains, Calcutta.

D. EPIJARBAS, Boisd. (Moore, Cat. Lep. E. I. C. i. p. 32); Hewits. Ill. Lep. Lyc. pt. 1. pl. 7. f. 16–18, ♂ ♀.

D. ISOCRATES, Fabr. (Westw. Linn. Trans. ii. t. 1).

D. NISSA, Kollar, Hügel's Kasch. iv. t. 4. f. 3, 4; Hewits. ib. pl. 10. f. 42–44, ♂ ♀.

D. PERSE, Hewits. ib. pl. 8. f. 24–26, ♂ ♀.

D. TIMOLEON, Stoll, Suppl. Cram. t. 32. f. 4; Boisd. Spéc. Gén. Lép. t. 22. f. 4.

*Amblypodia rochana*, Horsf. (Catal. Lep. E. I. C. i. pl. 1 a. f. 10).

AMBLYPODIA NARADA, Horsf. Catal. Lep. E. I. C. (1828) pl. 1. f. 8, ♀.

A. AMERIA, Hewits. Cat. Lyc. B. M. pl. 8. f. 85, 86, ♂.

A. ABSEUS, Hewits. ib. pl. 5. f. 51, 52, ♀.

A. ARESTE, Hewits. ib. pl. 5. f. 43, 44, ♀.

Darjeeling.

A. ATRAX, Hewits. ib. pl. 7. f. 80–82.

Calcutta.

A. AMANTES, Hewits. ib. pl. 2. f. 1–3.

A. CHINENSIS, Felder.

Darjeeling.

A. EUMOLPUS, Cram. t. 299. f. G, H (Hewits. ib. pl. 8. f. 89).

*A. CAMDEO*, Doubleday (Cat. Lep. E. I. C. i. pl. 1 *a.* f. 6 ; Hewits. ib. pl. 3. f. 25, 26, ♂).

*A. CENTAURUS*, Fabr. (Hewits. ib. pl. 2. f. 10-13, ♂ ; f. 11, ♀).

*A. nakula*, Felder, Lep. Mal. Wien. Ent. Monat. iv. p. 395.

*CAMENA CTESIA*, Hewits. Ill. Lep. Lyc. pt. 2. pl. 20. f. 1, 2, ♂.  
Darjeeling.

*PORITIA*, n. g., Moore.

*Pseudodipsas* (part.), Felder.

Eyes naked. Palpi long ; third joint slender, one-third the length of the second, finely pointed at the tip. Legs short, stout ; femora slightly pilose beneath. Antennæ slender at the base ; club moderate. Thorax stout ; abdomen moderate, extending to two-thirds of the length of the hind wing. Wings short, very broad ; costa of fore wing slightly concave in the middle, exterior margin straight, slightly oblique, posterior margin nearly as long as the costæ, posterior angle acute : hind wing very convex near the base, concave in the middle ; apex, exterior margin, and anal angle rounded, scalloped ; subcostal vein with first branch arising at one-third from its base and extending to the costa beyond one-third of its length, third remote, fourth arising from the second at one-fourth of the length of the first.

*PORITIA HEWITSONI*, n. sp. (Pl. XLI. f. 10.)

*Male*. Upperside jet-black : fore wing with the lower part of the base from beneath to beyond the cell and extending into the black of the exterior margin brilliant deep blue, or in some lights emerald-green, in the middle of which is an elongated black spot ; a row of very small similar brilliant blue spots obliquely before the apex and along the exterior margin : hind wing with the same brilliant blue extending from the base beneath the cell (in some specimens encroaching within) to the exterior margin, within which is a row of more or less defined marginal and submarginal black spots ; exterior margin defined by a black line ; abdominal and anterior margins greyish black ; a tuft of fine greyish hairs near the base. Thorax above greenish black ; abdomen black. Antennæ black, ringed with white. Head and palpi above hoary. Palpi and thorax beneath and legs white ; tibiæ and tarsi with black spots. Underside very pale ashy colour ; both wings covered with numerous transverse irregular-shaped black-bordered pale-brown markings, those at the base short, a series across the disk zigzag, others along the exterior margin with narrow inner white lines ; posterior angle of both fore and hind wings with a black spot bordered above with orange-red.

*Female*. Upperside brownish black ; fore wing with a pale orange-yellow streak in the middle, above and beneath which are purple-blue connected streaks ; hind wing with ill-defined purple-blue marginal and discal spots, exterior margin defined by a very narrow yel-

low line, which is bordered within by a similar white line. Cilia in both sexes alternate brown and white.

Expanse  $1\frac{3}{10}$  inch.

Bengal. In Coll. A. E. Russell; F. Moore.

IOLAUS LONGINUS, Fabr. (Horsf. Cat. Lep. E. I. C. (1829) pl. 1. f. 7; Hübn. Zutr. f. 933).

I. CLEOBIS, Godt. (Hewits. Ill. Lep. Lyc. pt. 2. pl. 17. f. 8-10, ♂ ♀).

*Amblypodia hypatada*, Moore, Cat. Lep. E. I. C. i. p. 45.

I. DEVA, Moore (Hewits. ib. pt. 2. pl. 17. f. 3-5, ♂ ♀).

APHINÆUS ETOLUS, Cram. t. 208. f. E, F (Hewits. ib. pt. 1. pl. 25. f. 3).

A. LOHITA, Horsf. Cat. Lep. E. I. C. (1829) p. 106 (Hewits. ib. pl. 25. f. 11).

A. SYAMA, Horsf. ib. p. 107 (Hewits. ib. pl. 25. f. 7).

HYPOLYCÆNA OTHONA, Hewits. ib. pt. 2. pl. 22. f. 17, 18).

Darjeeling.

II. ANASA, Hewits. ib. pl. 22. f. 19, 20.

*Papilio etolus*, Fabr. (Horsf. ib. pl. 1. f. 9).

H. ERYLUS, Fabr. (Hewits. ib. pt. 2. pl. 21. f. 1, 3, ♂ ♀).

MYRINA JAFRA, Godt. (Horsf. ib. pl. 2. f. 5).

M. ACTE, Doubleday (Hewits. ib. pt. 1. pl. 12. f. 8, 9).

M. TRIOPAS, Cram. t. 320. f. G, H (Guér. Icon. Règ. Anim. Ins. t. 81. f. 6).

Calcutta.

M. JALINDRA, Horsf. ib. p. 109, ♀.

*Sython thymbræus*, Hübn. Zutr. f. 671 (1832), ♂.

Balasore.

M. MANDARINA, Doubleday (Hewits. ib. pt. 1. pl. 11. f. 6, 7).

M. JANGALA, Horsf. ib. i. pl. 1 a. f. 11).

Darjeeling.

M. RAVATA, n. sp. (Pl. XLI. f. 11.)

*Femule.* Upperside purple brown; discoidal cell and space below purple-blue. Tails two, bordered and tipped with white. Underside chrome-yellow; fore wing with a transverse discal pale-brown narrow line: hind wing with discal pale-brown line terminated with continuous white spots; a large black spot above each tail, interspaced with brown, bordered above by a broken line of metallic green, and

below by a white line; cilia from anal angle to beyond the tails black, edged with white.

Expanse  $1\frac{1}{2}$  inch.

Bengal. In Coll. A. E. Russell.

*LOXURA ATYMNUS*, Cram. t. 331. f. D, E (Horsf. Cat. Lep. E. I. C. (1829) pl. 2. f. 6).

*L. TRIPUNCTATA*, Hewits. (Westw. & Hewits. Diurn. Lep. pl. 74. f. 2).

*ANOPS THETYS*, Drury, Ill. Ins. iii. pl. 9. f. 3, 4; Cram. t. 238. f. D, ♀.

*Papilio cinyra*, Cram. t. 238. f. C, ♂.

*A. BULIS*, Boisd. (Westw. & Hewits. Diurn. Lep. pl. 75. f. 5; Hewits. Ill. Diurn. Lep. Lye. pt. 1. pl. 4. f. 1, ♂).

*MILETUS BOISDUVALI*, Moore, Cat. Lep. E. I. C. i. p. 19. pl. 1 a. f. 1.

Darjeeling.

*M. DRUMILA*, n. sp. (Pl. XLI. f. 12.).

*Male*. Upperside dull fuliginous white, exterior margins scalloped; fore wing with the apex from the middle of the costa obliquely to below and near the middle of the exterior margin and thence retracing to posterior margin dark fuliginous brown, with the tips of the veins on the costa brownish white; hind wing dark fuliginous brown along anterior margin, with paler fuliginous marginal lunules. Cilia pale buff-colour. Antennæ black. Body pale brown. Underside very pale fuliginous brown: fore wing with the disk broadly dull white; three short transverse brown bands within the cell; an irregularly margined curved brown submarginal band; along the costa and exterior margin numerous small brown speckles: hind wing with basal transverse pale-bordered marks; a short row of black-bordered dark-brown pointed lunules proceeding from anal angle across the disk, with numerous brown speckles beneath it, and also on the anterior margin. Palpi and body beneath and legs pale brown.

Expanse  $1\frac{3}{4}$  inch.

Bengal. In Coll. A. E. Russell; F. Moore.

#### Fam. HESPERIDÆ.

##### GONILOBA CHROMUS.

*Papilio chromus*, Cram. t. 284. f. E.

*Male and female* dark vinaceous brown.

*Male* with suffused blackish subbasal patch; both wings greyish brown basally. Cilia greyish brown. Head and thorax greenish brown. Abdomen brown. Underside with the apex of fore wing suffused with purple blue; hind wing with a narrow transverse discal



bluish-white band, a blackish patch on anal lobe, exterior to which the cilia have a short white line. Third joint of palpi and legs brown; palpi and thorax beneath dull yellow.

*Female* paler brown; fore wing with two yellowish semitransparent discal spots, and a very small similar spot before the apex.

Expanse 2 inches.

Bengal.

G. BADRA, Moore, Cat. Lep. E. I. C. i. p. 245.

*Male* and *female* yellowish brown.

*Male* with a suffused blackish subbasal patch; fore wing with three conjugated very small yellowish semitransparent spots near the costa, one-fourth from the apex. Cilia pale greyish brown. Underside brown, suffused with purple; fore wing with a blackish costal patch before the apex, posterior margin yellowish; hind wing with a subbasal and submarginal suffused blackish band, the latter terminating in a black patch on anal lobe; above the patch is a purple-white streak, and within the cell a small bluish-white spot. Palpi and body beneath dull yellow. Legs pale brown.

*Female* above brown, suffused with vinaceous, yellowish-brown basally; fore wing with the three small subapical spots (as in male) and three rather large obliquely quadrate spots, two being disposed on the disk, the third above and within the cell. Underside with the spots on fore wing as in upperside; hind wing as in male.

Expanse, ♂ 2, ♀ 2 $\frac{1}{4}$  inches.

Bengal. In Coll. A. E. Russell; F. Moore; Brit. Mus. (Horsf. Coll.)

G. SENA, Moore, Cat. Lep. E. I. C. i. p. 245.

*Male*. Upperside dark chocolate-brown. Cilium of hind wing carmine-red. Underside maroon-brown; fore wing with a large buff-white patch from the middle of posterior margin, bordered above with purple; hind wing with a broad transverse purple-white band terminating before the anal angle, the inner border of which is sharply defined, the outer suffusing itself on the disk. Cilia carmine-red. Palpi and thorax in front beneath, and anal tuft dull yellow. Thorax beneath greyish brown.

Expanse 2 inches.

Bengal. In Coll. A. E. Russell; F. Moore; Brit. Mus. (Horsf. Coll.)

#### PTERYGOSPIDEA FOLUS.

*Papilio folus*, Cram. t. 74. f. F.

*Hesperia cicero*, Fabr. Ent. Syst. iii. 1. p. 358.

#### P. MENAKA.

*Goniloba menaka*, Moore, Cat. Lep. E. I. C. i. p. 246.

*Male* and *female* dark brown.

*Male*. Fore wing with six minute semitransparent white spots recurring before the apex, and two similar spots from near middle

of the costa; hind wing with a large discal quadrate space pure white, a series of blackish brown marginal spots with their interspaces greyish, and within the white space two smaller paler spots. Base of abdomen white.

*Female*. Marked as in male, but having the semitransparent spots on the fore wing larger, the black marginal spots of hind wing more distinct and apart, and with the two spots on the white space. Underside as the upperside, both sexes having the base of the hind wing, palpi beneath, legs, and body greyish white, and the black spots on the hind wing extend towards the base of the anterior margin. Palpi above brown.

Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

N.E. Bengal. In Coll. A. E. Russell; F. Moore; East Ind. Mus.

#### P. RAVI.

*Goniloba ravi*, Moore, Cat. Lep. E. I. C. i. p. 246.

*Male* and *female* fuliginous brown.

*Male*. Upperside—fore wing with three minute semitransparent spots before the apex, two larger similar spots on the disk diverging inward below the extremity of the cell; across the disk are three ill-defined blackish spots, and one before it near the base; apex and exterior margin blackish: hind wing with a curved series of small blackish discal spots. Underside brown; fore wing with the semitransparent spots as above; hind wing suffused with greyish white, and having a curved series of small blackish discal spots. Palpi, body, and legs beneath greyish white.

*Female* similar, but having two very minute additional spots beneath the subapical series, those on the disk being large, and above the latter is a transverse spot at the extremity of the cell. Cilia brown throughout.

Expanse, ♂  $1\frac{5}{8}$ , ♀ 2 inches.

Bengal. In Coll. A. E. Russell; F. Moore; East Ind. Mus.

#### P. PRALAYA.

*Goniloba pralaya*, Moore, Cat. Lep. E. I. C. i. p. 246.

*Male* and *female* yellowish brown, veins paler on the disk. Upperside—fore wing with a numerous series of variously shaped small semitransparent white spots, five of which are placed obliquely before the apex, the rest disposed from near middle of the costa and extending across the disk, three of which are in the form of elongated streaks: hind wing with the exterior half orange-yellow, having a subbasal series of longitudinal black streaks between the yellow veins; apex with suffused blackish spots. Abdomen with yellow segmental bands. Underside as above: fore wing with the veins from the base lined with yellow; a series of submarginal ill-defined yellow spots. Palpi, body, and legs yellowish brown.

Expanse, ♂  $1\frac{3}{4}$ , ♀ 2 inches.

Bengal. In Coll. A. E. Russell; F. Moore; Brit. Mus. (Horsf. Coll.).

*P. GANA*, n. sp.

*Male and female* dark brown.

*Male.* Upperside with three minute semitransparent spots obliquely before the apex; a transverse discal series of streaks, a small patch within the cell, one near the base of the wing, and exterior margin blackish: hind wing with the lower third pure white, which is straightly separated from the brown of the basal portion; apical margin and three spots on the upper part of the disk, and two spots on the middle of the white exterior margin. Underside paler brown, semitransparent spots on fore wing as above: hind wing white, suffused with brown along the anterior margin; upper discal and marginal spots as above, black.

*Female* paler. Upperside somewhat greyish brown; fore wing with spots and blackish discal streaks, and hind wing with upper discal spots as in male; exterior margin of hind wing greyish white. Underside as in male. Cilia of both sexes pure white on the lower portion of the hind wing, the rest brown.

Expanse, ♂  $1\frac{3}{4}$ , ♀  $1\frac{7}{8}$  inch.

Bengal. In Coll. F. Moore; Brit. Mus. (Horsf. Coll.)

#### SATARUPA, n. g., Moore.

Palpi stout, densely pilose, erect, projecting in front of the head; third joint minute, conical. Antennæ moderate. Body very stout. Legs slender; femora slightly pilose beneath; hind tibiæ pilose at the side and beneath; middle tibiæ with a pair, and hind tibiæ with two pairs of apical spurs. Wings—fore wing acute; costa nearly straight, exterior margin oblique; hind wing rounded exteriorly in the male, angled at the apex, and in the middle of exterior margin of the female.

SATARUPA GOPALA. (Pl. XLII. f. 1.)

*Goniloba gopala*, Moore, Cat. Lep. E. I. C. i. p. 246.

*Male and female* dark maroon-brown. Upperside—fore wing with a series of eight semitransparent irregular-shaped whitish spots recurving transversely from costal margin before the apex to near posterior margin, being there joined by a white longitudinal streak; a similar triangular-shaped spot within the discoidal cell: hind wing pure white, with the base and narrowly along anterior margin maroon-brown; a double row of black marginal spots, the interspace between the rows being suffused with bluish grey. Abdomen with broad white band; tip brown. Cilia of hind wing white. Underside as above, but with base of hind wing greyish white, and the double row of marginal spots more defined and blacker. Palpi above brown, beneath orange-yellow. Thorax and legs beneath dull white; legs in front black.

Expanse, ♂  $2\frac{1}{2}$ , ♀ 3 inches.

Darjeeling. In Coll. A. E. Russell; F. Moore; East Ind. Mus.

## S. SAMBARA.

*Goniloba sambara*, Moore, Cat. Lep. E. I. C. i. p. 246.

*Male and female.* Upperside dark maroon-brown; fore wing with a series of seven semitransparent white spots, three being small and obliquely subapical, the rest transverse to near posterior margin and there joined by a short white longitudinal streak; hind wing with a broad central transverse whitish band, bordered by a semicircular discal series of black spots. Abdomen with whitish band. Cilia spotted with white. Underside as above, but paler; the white band on the hind wing less defined, but of a purer white. Palpi above and at the side, and legs in front blackish. Palpi and thorax beneath, legs, and abdomen whitish; tip of the last brown.

Expanse  $1\frac{3}{4}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore; East Ind. Mus.

## S. BHAGAVA, n. sp.

Upperside dark olive-brown: fore wing with a triangular series of three discal semitransparent white spots, the first being large and within the extremity of the cell, the second quadrate and beneath the first, the third exterior to their juncture; beneath these are small black spots bordering a brownish-white streak from middle of posterior margin; a recurved series of small similar white spots before the apex: hind wing with a broad brownish-white subbasal transverse band, bordered by a semicircular series of black spots, those exteriorly assuming the form of streaks between the veins. Abdomen with a white band. Underside as above. Palpi and thorax in front beneath orange-yellow. Cilia brown.

Expanse  $1\frac{3}{4}$  inch.

N.E. Bengal. In Coll. East India Museum.

## DARPA, n. g., Moore.

Palpi stout, densely pilose; third joint small, conical, hidden by the hairs. Antennæ moderate, hooked at the tip. Legs short; femora slightly pilose; fore tibiæ short and rather stout; mid tibiæ slightly, and hind tibiæ densely pilose; mid and hind tibiæ armed with a pair of short spurs (the usual second pair on the latter invisible). Body stout; abdomen short. Wings small; costa of fore wing nearly straight; exterior margin irregularly scalloped, produced in the middle: hind wing somewhat quadrate; exterior margin irregularly scalloped, produced to an angle in the middle.

## DARPA HANRIA, n. sp. (Pl. XLII. f. 2.)

Upperside black, with minute bluish-grey scales in patches between the veins and narrowly along the veins: fore wing with a series of semitransparent irregular-shaped spots, the largest of which is within the extremity of the cell, others above and beneath it; before the apex are three small similar conjugated spots: hind wing with a pale-yellow space broadly occupying the lower portion of the exterior



margin; apical and two medial angles with a black spot; base of wing adorned with very long brown and yellow hairs. Underside paler; fore wing with markings as above, densely irrorated with bluish-white scales: hind wing bluish white at the base, yellowish white exteriorly; anterior margin and apex blackish; below the anterior margin are three black spots, and a spot on the two medial angles of exterior margin. Palpi and body beneath, and legs, white.

Expanse  $1\frac{3}{8}$  inch.

N.E. Bengal. In Coll. F. Moore.

ISMENE JAINA, Moore, Cat. Lep. E. I. C. i. p. 247.

*Male* and *female* dark vinaceous brown.

*Male*. Upperside—fore wing with an orange-red subcostal basal streak, and an indistinct blackish patch beneath the cell; front of thorax, anal tuft, and cilia of hind wing bright orange-red; thorax and base of abdomen clothed with bluish-grey hairs. Underside paler brown; both wings with a small black orange-red-bordered basal spot: fore wing with a well-defined purplish-white spot within the cell, and a curved discal series of narrow less-defined spots; posterior margin broadly yellow: hind wing with the veins towards the abdominal margin and cilia orange-red; a curved ill-defined series of narrow purplish-white discal streaks. Third joint of palpi brown; thorax beneath greyish; middle of abdomen beneath and sides of the bands, and legs, orange-red.

*Female* similar, but with darker bluish-grey hairs, without the orange-red subcostal streak and black discal patch.

Expanse  $2\frac{1}{2}$  inches.

Darjeeling. In Coll. A. E. Russell; F. Moore; East Ind. Mus.

I. VASUTANA, Moore, Cat. Lep. E. I. C. i. p. 247.

*Male*. Upperside deep purple brown, paler on the base of the wings; fore wing with orange-yellow costal basal streak. Cilia of hind wing broad, and bright orange-yellow. Underside glossy greyish green, the veins and narrow intermediate parallel lines blackish; a patch on posterior half of fore wing brown, bordered above with blue. Third joint of palpi brown, the rest orange-yellow. Head, thorax in front and beneath, legs, middle of abdomen beneath, and anal tuft bright orange-yellow.

*Female*. Upperside darker brown, the base of the wings greyish blue; fore wing with two small semitransparent spots obliquely beneath the extremity of the cell. Underside as in male, with the two spots as above.

Expanse, ♂  $2\frac{1}{8}$ , ♀  $2\frac{1}{4}$  inches.

Darjeeling. In Coll. East India Museum and F. Moore.

I. HARISA, Moore, Cat. Lep. E. I. C. i. p. 247.

*Male* and *female* brown.

*Male*. Upperside dull vinaceous brown, palest on the disk; fore wing with an orange-yellow costal streak; hind wing broadly along



anterior margin pale buff yellow. Body greyish. Cilia of hind wing orange-yellow. Underside paler, suffused with orange-yellow; fore wing with a curved series of pale-purple narrow streaks between the veins before the apex, and a broad pale buff patch along the posterior margin; hind wing with the veins and lines between them and cilia orange-yellow; a black orange-yellow-encircled basal spot on both wings; a discal series of pale-purplish streaks. Third joint of palpi brown; palpi beneath, front and sides of thorax, legs, and streak along side of abdomen orange-yellow; middle of thorax and abdomen and anal tuft orange-yellow.

*Female.* Upperside dark purple brown; the base of wings greyish, with steel-blue gloss. Body greyish. Cilia of hind wing pale orange-yellow. Underside as in male; posterior margin of fore wing with a less-defined pale patch.

Expanse 2 inches.

Darjeeling. In Coll. A. E. Russell; F. Moore; East Ind. Mus.

I. AMARA, Moore, Cat. Lep. E. I. C. i. p. 247.

*Male and female.* Upperside brown, with a greenish gloss; costal streak of fore wing ochreous yellow in the male, less prominent in the female; male with a blackish subbasal patch. Cilia of both wings short, and brownish white. Body dark brown; abdomen with greyish segmental bands. Underside—fore wing brown, becoming bluish black along the base of the costa; posterior margin broadly brownish white; hind wing bluish black; veins of both wings brownish white, the space between them having a greyish-blue parallel line running their entire length. Both wings also with the black ochreous-yellow-encircled basal spot. Thorax in front and beneath, head, palpi, legs, middle of abdomen, and anal tuft ochreous yellow. Femora and tibiæ with a black spot; sides of abdomen black, the segmental bands prominent. Cilia greyish.

Expanse  $2\frac{1}{8}$  inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore; East Ind. Mus.

I. BENJAMINI.

*Hesperia (Thymeles) benjamini*, Guér. Mén. in Deless. Voy. dans l'Inde, pt. 2. t. 22. f. 2.

*H. xanthopogon*, Kollar, Hügel's Kaschmir, iv. pt. 2. t. 18. f. 1, 2 (1844).

Darjeeling.

I. GOMATA, n. sp.

*Male.* Upperside pale vinaceous brown; both wings with pale brownish-yellow streaks longitudinally between the veins. Abdomen blackish brown, with yellowish bands. Cilia yellowish. Underside dark brown, with the veins and longitudinal streaks between them greyish green, the brown showing only along each side of the veins; posterior margin of fore wing broadly pale vinaceous; exterior margin of both wings defined by a brown line. Third joint of palpi and

edge of sides brown, the rest yellow. Thorax, legs, and abdomen beneath orange-yellow.

Expanse  $2\frac{1}{4}$  inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

#### I. MURDAVA, n. sp.

Upperside olive-brown; fore wing with the base grey, with six small yellow spots, two within the extremity of the cell, two near the costa one-third from the apex, and two midway beneath; hind wing grey to beyond the middle. Underside pale yellowish brown; disk of fore wing blackish, spots as above; hind wing with indistinct submarginal and discal pale-yellowish spots. Abdomen above with greyish-brown segmental bands. Palpi, abdomen, and legs beneath dull yellow.

Expanse 2 inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

#### I. ARIA.

*Hesperia aria*, Moore, Cat. Lep. E. I. C. i. p. 254.

*Male* and *female* chocolate-brown.

*Male*. Upperside pale brown; fore wing with a short impressed comma-like grey streak obliquely beneath the cell. Cilia yellowish white. Underside bright ferruginous brown. Palpi ferruginous brown.

*Female*. Upperside dark chocolate-brown, without the impressed streak; cilia of hind wing pale orange-yellow. Underside bright ferruginous brown.

Expanse, ♂  $1\frac{6}{8}$ , ♀  $2\frac{1}{8}$  inches.

Bengal. In Coll. A. E. Russell; F. Moore; Brit. Mus. (Horsf. Coll.)

#### I. DRUNA.

*Hesperia druna*, Moore, Cat. Lep. E. I. C. i. p. 254.

*Male*. Upperside dark olive-brown; fore wing with a well-defined obliquely-curved discal impressed grey streak; cilia of fore wing greyish white, of hind wing orange-yellow. Head, palpi, and legs beneath ferruginous brown. Underside dark purplish brown.

Expanse  $1\frac{7}{8}$  inch.

Bengal. In Coll. F. Moore; Brit. Mus. (Horsf. Coll.)

#### I. ? SASIVARNA, n. sp.

*Male* and *female*. Upperside dark vinaceous brown.

*Male*. Fore wing with a short impressed comma-like greyish-white streak obliquely beneath the cell; cilia of fore wing greyish white, of hind wing broadly, from anal angle to two-thirds of the margin, orange-yellow, thence to the angle brown. Underside dark fuliginous brown; cilia as above. Palpi and body blackish brown; abdomen with slight orange-yellow tuft.

*Female* as in male, but without the oblique greyish-white streak.  
 Expanse, ♂  $1\frac{3}{4}$ , ♀ 2 inches.  
 Bengal. In Coll. A. E. Russell; F. Moore.

I. LADON, Cram. t. 248. f. G.

CAPILA, n. g., Moore.

Palpi large, porrect, projecting beyond the head, densely pilose; third joint conical, half the length of the second. Antennæ extending to half the length of fore wing. Body moderately stout. Abdomen extending to near anal angle. Legs slender; femora slightly pilose beneath; hind tibiæ with a dense tuft of very long hairs at the side; mid tibiæ with a pair, and hind tibiæ with two pairs, of apical spurs. Wings large, broad. *Male*. Costa nearly straight; apex acute; exterior margin very oblique; posterior margin abbreviated, half the length of the costa. Hind wing with the apex angled; exterior margin convex, with slight angle in the middle. *Female* larger. Costa slightly arched; exterior margin oblique; posterior margin two-thirds the length of the costa. Hind wing nearly quadrate, the exterior margin being produced to an abrupt angle in the middle.

CAPILA JAYADEVA. (Pl. XLII. f. 3.)

*Ismene jayadeva*, Moore, Cat. Lep. E. I. C. i. p. 248.

*Male* and *female* brown. Upperside—base of wings clothed with orange-yellow hairs; both wings with a narrow longitudinal semi-transparent streak between the veins, the discoidal cell having two streaks, and a third but short streak arising from its extremity. Thorax, head, and palpi orange-yellow. Abdomen brown, with narrow white segmental bands; third joint of palpi and a few surrounding hairs and a spot on forehead brown. Underside paler brown, the semitransparent streaks being less prominent. Body and legs brown.

*Female* similar, but with the thorax and base of wings brown.

Expanse, ♂  $2\frac{5}{8}$ , ♀ 3 inches.

Darjeeling. In Coll. A. E. Russell; F. Moore; East Ind. Mus.

PISOLA, n. g., Moore.

Palpi large, erect, projecting beyond the head, densely pilose; third joint minute, conical. Antennæ rather long, curved backward at the apex. Body very stout; abdomen extending to within one-third of the length of hind wing. Legs moderately slender; femora pilose beneath; mid tibiæ armed with a pair, and hind tibiæ with two pairs, of slender apical spurs. Wings large, broad; costa of fore wing slightly arched; exterior margin oblique; posterior margin straight. Hind wing convex at the base of anterior margin; apex, exterior margin, and anal angle convex. Subcostal vein of fore wing six-branched; second and third arising at equal distances from the first; fourth to sixth contiguous at their base to the third.

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*PISOLA ZENNARA*, n. sp. (Pl. XLII. f. 4.)

*Male and female.* Upperside brown; fore wing with a broad yellowish-white semitransparent irregular-margined discal band obliquely from middle of costa to posterior angle; hind wing, in the male, exteriorly with two greyish longitudinal streaks between each vein, these being absent in the female. Abdomen with pale greyish anal tuft. Underside uniform brown, with oblique discal band as above. Front of head and palpi dull orange-yellow. Body and legs brown. Cilia brown.

Expanse, ♂  $2\frac{7}{8}$ , ♀  $3\frac{1}{8}$  inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

*ACHLYODES SURA*, Moore, Cat. Lep. E. I. C. i. p. 251.

*Male and female* vinaceous brown, palest on the hind wing.

*Male.* Fore wing dull chestnut-brown along exterior margin, with a black transverse band one-third from the base; a geminated semitransparent spot on costa before the apex, surrounded by suffused black; a semitransparent lunule and a small spot on the lower part of the disk, bordered without by a black band: hind wing with a transverse subbasal, an elbowed discal, and a lower submarginal purplish-white line; apex of wing with suffused black patch and lower marginal blackish pale-bordered spots. Underside brown: fore wing suffused with greyish white at the base; markings as above: hind wing greyish white, the transverse lines less defined, marginal spots blacker, and a blackish spot near base of wing. Palpi above black. Palpi and body beneath and legs greyish white.

*Female* paler, marked on upper and underside as in male.

Expanse, ♂  $1\frac{6}{8}$ , ♀  $1\frac{7}{8}$  inch.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

*A. VASAVA*, Moore, Cat. Lep. E. I. C. i. p. 252.

Upperside dull ferruginous, palest on the hind wing: fore wing slightly suffused with blackish along the posterior margin; an irregular series of various-shaped semitransparent spots disposed across the disk, with an exterior blackish transverse streak: hind wing with the base suffused with blackish; a subbasal agglomerated series of irregular-shaped semitransparent spots. Underside paler, marked as above, but without the transverse black outer streak on the fore wing. Palpi and body beneath whitish. Legs ferruginous.

Expanse  $1\frac{1}{2}$  inch.

Darjeeling. In Coll. East India Museum.

*NISONIADES SALSALA*, Moore, Cat. Lep. E. I. C. i. p. 250.

*Male and female* dark brown, with olive-brown gloss.

*Male.* Upperside—fore wing with two or three ill-defined yellowish spots ascending obliquely from beyond middle of posterior margin.

*Female.* Fore wing with an oblique series of small semitransparent white spots curving across the disk (more or less distinct), and terminated below by an ill-defined yellowish spot. Underside chestnut-

brown, suffused with black on the disk; fore wing with minute white spots, one at extremity of the cell, and two or three obliquely beyond; hind wing with a series of three spots disposed in a curve across the disk; cilia greyish brown. Palpi, body, and legs yellowish beneath.

Expanse  $1\frac{1}{8}$  inch.

Bengal. In Coll. A. E. Russell; F. Moore.

N. DASAHARA, n. sp.

*Male and female.* Upperside dark olive-brown, with three indistinct suffused blackish transverse bands, the interspaces being slightly grey; fore wing with a minute semitransparent white spot at the extremity of the cell, another immediately above it, and three others curved before the apex. Underside brown; spots and indistinct blackish bands as above, but with the latter on the hind wing somewhat broken, with the interspaces grey, thus giving it a tessellated appearance.

Expanse  $1\frac{1}{4}$  inch.

Bengal. In Coll. A. E. Russell; F. Moore.

N. DIOCLES.

*Hesperia diocles*, Boisd. MS.

*Male and female.* Upperside uniform dark glossy olive-brown, without markings. Underside pale brown, with a well-defined paler brown exterior border. Antennæ, palpi, and body dark olive-brown.

Expanse, ♂  $1\frac{3}{4}$ , ♀  $2\frac{2}{8}$  inches.

Bengal. In Coll. A. E. Russell; F. Moore.

PLESIONEURA SUMITRA, n. sp.

*Male and female* dark olive-brown, paler at the base.

*Male.* Fore wing with an oblique discal series of four conjugated semitransparent white spots, the first and second large and quadrate, the other two very small, first one within the extremity of the cell, second and third beneath it, fourth exteriorly before the juncture of the first and second; a series of five small similar spots obliquely before the apex: hind wing with a submarginal row and a few discal bright orange-yellow spots; cilia of hind wing broadly alternate brown and orange-yellow. Underside as above; the orange-yellow spots on the hind wing more clearly defined. Antennæ above silvery white. Palpi and front of thorax beneath pale yellow. Abdomen with narrow orange-yellow segmental bands.

*Female* as in male, but having also a yellow costal spot above the oblique discal series of white spots.

Expanse, ♂ 2, ♀  $2\frac{5}{8}$  inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

P. PULOMAYA.

*Hesperia pulomaya*, Moore, Cat. Lep. E. I. C. i. p. 252.

*Male* dark olive-brown, yellowish olive basally: fore wing with four oblique discal semitransparent white spots, the two upper large,



one within and the other beneath the extremity of the cell, the third small and beneath the second, fourth also small and exterior to the juncture of the upper two; obliquely before the apex are five small similar spots, the upper three being conjugated; near posterior margin are two small orange-yellow spots, the first being one-third from the base, the other one-third from posterior angle: hind wing with three rows of irregular-shaped well-defined bright orange-yellow spots; cilia of hind wing broad, alternate brown and orange-yellow. Underside as above. Top of head black, with a marginal yellow narrow line on each side. Palpi above black, tipped with yellow. Palpi, thorax, and legs beneath yellow. Antennæ with yellow sub-apical streak.

Expanse 2 inches.

Darjeeling. In Coll. East India Museum; F. Moore.

*P. AMBAREESA*, n. sp.

Upperside dark olive-brown, the whole surface irrorated with delicate yellowish-olive scales: fore wing with an oblique transverse discal series of pale yellowish-white semitransparent spots, the first large and within the extremity of the cell, being indented exteriorly, the second small and some distance beyond, the third large and beneath the latter; below the last are two other small spots; and one-third from the base beneath the cell is a small round similar spot; above the first on the costa is a small brighter yellow spot, which is not semitransparent; before the apex are five rather large similar spots, the three upper conjugated, as are also the other two; one or two lower submarginal very indistinct orange-coloured spots: hind wing with a row of ill-defined orange-coloured submarginal spots, and others still less defined nearer the base: cilia of both wings broad, alternate brown and yellowish white. Underside paler, more uniform in colour; markings as above.

Expanse 2 inches.

Bengal (Maungbhoom). In Coll. F. Moore.

*P. CHAMUNDA*, n. sp.

*Female.* Upperside dark brown; base of fore wing and the whole hind wing except exterior margin dark olive-brown; fore wing with an oblique transverse discal series of semitransparent silky-white spots, the first small and above the extremity of the cell, the second large and within the cell, the third beneath also large, the fourth facing the posterior angle, and a fifth exterior to and facing the juncture of the second and third; a series of five small similar spots obliquely recurving before the apex; cilia brown, on the hind wing alternated with white. Underside as above.

Expanse 2 inches.

Bengal. In Coll. A. E. Russell; F. Moore.

*P. PUTRA*.

*Hesperia putra*, Moore, Cat. Lep. E. I. C. i. p. 253.

Upperside dark fuliginous-brown; fore wing with an oblique

discal series of three conjugated semitransparent whitish spots, the first and second large, the first within the extremity of the cell, the second beneath it, the third very small and at the lower outer angle of the latter; exterior to the junction of the upper two is a very minute spot, and before the apex is an interrupted series of five very small similar spots, the three upper being conjugated; hind wing with a submarginal and discal series of indistinct orange-yellow spots; fore wing with ill-defined, and hind wing with prominent, alternate yellowish-white and brown cilia. Underside dark brown, the semitransparent spots whiter, and the submarginal and discal spots of the hind wing pale yellow. Palpi beneath pale yellow. Body and legs beneath brownish yellow. Antennæ white in front.

Expanse 2 inches.

Bengal. In Coll. Brit. Mus. (Horsf. Cabinet); F. Moore.

P. ALYSOS, n. sp.

*Hesperia alysos*, Boisd. MS.

Upperside dark fuliginous brown; fore wing with a broad oblique discal irregular-margined semitransparent white band, and with one or two, and in some specimens three, very small similar conjugated spots obliquely before the apex, also one or two reversely oblique lower spots; cilia paler brown. Underside paler; band and spots as above; along exterior margin of fore wing and exterior half of hind wing suffused with purple grey. Antennæ brown, with a subapical white streak. Palpi and thorax beneath greyish brown.

Expanse  $1\frac{5}{8}$  inch.

Bengal. In Coll. A. E. Russell; F. Moore.

P. DHANADA, n. sp.

Upperside dark yellowish olive-brown; the base of the wings brighter olive-brown: fore wing with an oblique transverse discal irregular-margined semitransparent yellowish band, joined above by a yellow costal spot; a small narrow streak of three conjugated similar spots obliquely before the apex: cilia brown, on the hind wing alternated with yellow. Underside—fore wing as above, the lower portion of the oblique band terminating in a suffused yellow spot; hind wing with three transverse discal series of ill-defined yellowish-olive spots; cilia as above. Antennæ minutely spotted with yellow at the base, and with a subapical yellowish band. Palpi and thorax in front beneath yellow. Abdomen with narrow yellowish segmental bands.

Expanse  $1\frac{3}{4}$  inch.

Bengal. In Coll. A. E. Russell; F. Moore.

P. DAN, Fabr. Mant. Ins. ii. p. 88.

*Hesperia fatih*, Kollar, Hügel's Kasch. iv. t. 18. f. 5, 6.

P. INDRANI, Moore, Cat. Lep. E. I. C. i. p. 253.

Upperside bright golden-yellow: fore wing with a discal series of four semitransparent white black-bordered spots, the first small and

above the extremity of the cell, the second large, quadrate, and within the cell, the third elongate and beneath the latter, the fourth exterior to their juncture; beneath these is a pale golden-yellow black-bordered spot; before the apex is a series of four similar white spots with black border, the three upper of which are conjugated; a well-defined black spot beneath the cell near the base; exterior margin and cilia blackish, the latter white at the posterior angle: hind wing with a semicircular submarginal series of black spots, and two similar inner discal spots; exterior margin black: cilia alternate black and white. Underside blackish brown, suffused with golden yellow, brightest on the hind wing; markings as above, but more clearly defined. Tip of palpi black; thorax, body, palpi (except tip), and legs yellow. Antennæ yellow, tip black.

Expanse  $1\frac{3}{4}$  inch.

Bengal. In Coll. East India Museum; F. Moore.

P. PRABA.

*Hesperia praba*, Moore, Cat. Lep. E. I. C. i. p. 253.

*Male* and *female* dark chocolate-brown. Upperside—fore wing with three small conjugated subapical semitransparent white spots, three similar and larger discal spots, and a fourth above them within the cell. Underside darker brown basally, paler exteriorly; fore wing with spots as above, bordered externally by a suffused dark-brown streak; hind wing with a double series of white dark-brown-outer-bordered lunules crossing the middle of the wing, beyond which is a submarginal series of suffused dark-brown spots. Palpi, thorax, and abdomen beneath pale greyish brown. Legs brown. Cilia yellowish white, spotted with pale brown.

Expanse, ♂  $1\frac{3}{8}$ , ♀  $1\frac{6}{8}$  inch.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

HESPERIA THRAX, Linn. Syst. Nat. i. pt. 2. p. 794; Donov. Ins. Ind. pl. 49. f. 2.

H. PANDIA, Moore, Cat. Lep. E. I. C. i. p. 254.

*Male* and *female* dark chocolate-brown. Fore wing with bright-yellow semitransparent quadrate spots, disposed triangularly, the first large and occupying half the cell, the second also large, obliquely beneath and partly beyond, the third small and obliquely above the second; above the last are three smaller spots obliquely before the apex, the two upper being geminated; in some specimens, beneath the subapical spots is a small dot, and on the posterior margin another, both similar to the rest; cilia at posterior angle brownish white; hind wing with the cilia at the anterior angle brownish white. Underside—fore wing irrorated with grey scales near the apex, posterior margin pale brownish white, spots yellow as above; hind wing irrorated with grey scales in a series of bands across the wing.

Expanse  $2\frac{5}{8}$  to  $3\frac{1}{4}$  inches.

Bengal. In Coll. A. E. Russell; F. Moore; East Ind. Mus.

*H. SEMAMORA*, n. sp.

*Female.* Upperside dark vinaceous brown; fore wing with a curved discal series of five semitransparent white spots, the two upper minute; hind wing with a broad pure-white patch extending half across the wing from abdominal margin. Cilia of fore wing brown, of hind wing broadly white. Abdomen with white apex. Underside—fore wing dark brown posteriorly, ferruginous brown anteriorly; spots as above; a small suffused patch on the middle of exterior margin, and cilia, brownish white: hind wing with a straight inner-bordered ferruginous-brown anterior margin, the rest of the wing pure white; a marginal series of blackish spots; cilia white. Palpi and legs in front brown. Thorax, abdomen, and legs beneath white.

Expanse 2 inches.

Bengal. In Coll. A. E. Russell.

*H. DIVODASA*, Moore, Cat. Lep. E. I. C. i. p. 255.

Upperside dark olive-brown; base of fore wing and lower part of hind wing suffused with greenish olive: fore wing with a series of six yellowish semitransparent spots, three of which are small, conjugated, and obliquely before the apex, the fourth lunular and within the extremity of the cell, the fifth elongated, beneath and exterior to the latter, the sixth smaller and exteriorly above the last; beneath these are two yellow spots (which are not semitransparent), the first small, the other large and elongated. Head, thorax, and abdomen above greenish olive. Cilia pale brownish yellow. Underside grey, the disk of the fore wing brownish; fore wing with the spots as above; hind wing with a curved discal series of four or five black spots, and a single spot within the cell. Palpi, body, and legs beneath whitish grey.

Expanse  $1\frac{1}{2}$  inch.

Bengal. In Coll. East Ind. Mus.; W. S. Atkinson; F. Moore.

Larva feeds on Date.—*Atkinson*.

*H. CHAYA*, Moore, Cat. Lep. E. I. C. i. p. 255.

Upperside brown: fore wing with a series of seven (in some specimens eight) small whitish semitransparent spots disposed transversely from anterior margin obliquely before the apex, then retreating to near middle of posterior margin; two similar spots within the cell. Cilia pale brownish white. Underside paler; fore wing with spots as above; hind wing with a curved series of white dots (which in some specimens are semitransparent, and when so are visible on the upper side) on the disk, and a single dot near the base of the wing. Palpi and body beneath pale brownish white.

Expanse  $1\frac{1}{2}$  inch.

Bengal. In Coll. East Ind. Mus.; W. S. Atkinson; F. Moore.

*H. AGNA*, Moore, Cat. Lep. E. I. C. i. p. 255.

Upperside glossy olive-brown; fore wing with a series of six very small rather indistinct whitish semitransparent spots curving from



before the apex to the middle of the wing; beneath these is a short oblique pale impressed streak, which is suffused with black on its anterior margin. Cilia pale brown. Underside pale brown; spots on fore wing as above, but less defined; hind wing with a curved discal series of white dots, and a single dot near the base. Palpi and body beneath pale brownish yellow.

Expanse  $1\frac{1}{2}$  inch.

Bengal. In Coll. East Ind. Mus.; F. Moore.

H. MANGALA, Moore, Cat. Lep. E. I. C. i. p. 255.

Upperside dark brown; fore wing with six small whitish semitransparent spots curving from before the apex, also two small similar spots within the cell; hind wing with a discal linear series of four conjugated semitransparent spots. Cilia pale brownish white. Underside paler, suffused with greenish yellow; fore wing with spots as above; hind wing with an additional spot (which is not semitransparent) at the extremity of the cell. Palpi and body beneath dark yellowish green.

Expanse  $1\frac{1}{2}$  inch.

Bengal. In Coll. East Ind. Mus.; F. Moore.

PAMPHILA SAGARA, n. sp.

Upperside pale olive-brown, markings pale yellow, divided by crossing veins: fore wing with a small streak within the cell, joined above at the end by smaller streaks which reach the costa; obliquely before the apex are two separate spots, the upper one near the costa, the other below the apex, beneath and between these an oblique discal streak: hind wing with a small spot within the cell, and a discal streak. Underside paler, marked as above; veins lined with yellow. Cilia yellowish white. Antennæ minutely spotted with white. Abdomen with narrow pale-yellow segmental bands.

Expanse  $1\frac{1}{8}$  inch.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

P. AUGIAS, Linn. Syst. Nat. i. pt. 2. p. 794.

PYRGUS SUPERNA, Moore, Cat. Lep. E. I. C. i. p. 249.

Upperside olive-brown; markings pale yellow; fore wing with three spots within the cell, two beneath it, a transverse discal series, and a submarginal row of smaller spots; hind wing with subbasal, large medial, and small submarginal spots. Cilia of both wings alternate brown and pale yellow. Abdomen with narrow pale-yellow segmental bands. Underside paler olive-brown; fore wing with the costal margin and spots as above, pale yellow; hind wing with a transverse subbasal, medial, and a narrow submarginal pale-yellow maculated band. Cilia as above, but paler. Palpi and body beneath, and legs, pale yellow.

Expanse, ♂  $\frac{3}{4}$ , ♀ 1 inch.

Bengal. In Coll. A. E. Russell; F. Moore.



## Sect. II. HETEROCERA.

## Tribe 1. SPHINGES.

## Fam. SPHINGIDÆ.

SMERINTHUS DRYAS, Boisd. (Walk. Cat. Lep. Het. B. M. pt. 8. p. 250).

S. DENTATUS, Cram. t. 125. f. G.

LEUCOPHLEBIA LINEATA, Westw. Cab. Orient. Ent. pl. 22. f. 2.

BASIANA CERVINA, Walk. Cat. Lep. Het. B. M. pt. 8. p. 237.

B. SUPERBA, n. sp.

*Female.* Upperside—fore wing at the base, within the discoidal cell, costal margin to the apex, and along the lower portion of the disk green, varied with pale yellow on the latter and at the apex; the disk from below the apex and lower portion of the wing brown; a dark line proceeding from the apex and separating the green and brown, a transverse irregular dark line near the base of the wing from costa to inner margin, and a second inner similar shorter line; a dark mark on disco-cellular nervure: hind wing rose-pink, darkest at the base, with a transverse suffused brown band, and two short dark lines at anal angle: thorax and body brown, the latter with greenish segmental bands. Underside dull chrome-yellow; fore wing at the apex, and below a dark longitudinal line from the apex, brown, crossed by three discal zigzag pinkish lines; hind wing pale brown at the apex, with three inner transverse discal zigzag pink lines. Expanse 6 inches.

Darjeeling. In Coll. A. Grote, Calcutta; F. Moore.

AMBULYX SUBSTRIGILIS, Westw. Cab. Orient. Ent. pl. 30. f. 2.

ACHERONTIA STYX, Westw. ib. pl. 42. f. 3.

A. SATANAS, Boisd. Spéc. Gén. Léop. pl. 16. f. 1 (Westw. ib. pl. 42. f. 2.)

Balasure.

SPHINX CONVULVULI, Linn.

MACROSILA DISCISTRIGA, Walk. Cat. Lep. Het. B. M. pt. 8. p. 209.

ZONILIA MORPHEUS, Cram. t. 149. f. D.

*Perigonia obliterans*, Walk. Cat. Lep. Het. B. M. Suppl. p. 28.

PANACRA VIGIL, Guér. Deless. Voy. dans l'Inde, pl. 23. f. 1.

*Panacra lignaria*, Walk. Cat. Lep. Het. B. M. p. 156.

P. BUSIRIS, Boisd.; Walk. ib. p. 270.

PHILAMPELUS ANCEUS, Cram. t. 355. f. A.

P. NAGA, Moore, Cat. Lep. E. I. C. i. p. 271.

DARAPSA BHAGA, n. sp.

Upperside purple brown: fore wing with dark-purple-brown pink-bordered inwardly oblique basal streak, beyond which a broad darker-coloured outwardly elbowed streak, bordered anteriorly with pale pink and posteriorly with purple blue; from the costa before the apex two pale-pink curved lines, terminating jointly at posterior angle: hind wing dark purple brown, with a short pale-pink streak ascending from anal angle. Body purple brown, with pale-pink segmental bands; end of abdomen and fan-like tuft dark purple brown. Underside purple brown, with dark-brown outer margin and oblique discal streaks.

Expanse  $3\frac{3}{8}$  inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

DAPHNIS NERI, Linn. (Cram. t. 224. f. D).

Plains.

PERGESA ACTEUS, Cram. t. 248. f. A.

P. CASTOR, Boisd.; Walk. Cat. Lep. Het. B. M. pt. 8. p. 153.

CHÆROCAMPA CELERIO, Linn. (Cram. t. 25. f. E).

C. ALECTO, Linn. (Cram. t. 137. f. D).

C. THYELIA, Linn. (Cram. t. 226. f. E, F).

C. LINEOSA, Walk. ib. pt. 8. p. 144.

C. CLOTHO, Drury, Ill. ii. pl. 28. f. 1.

C. LUCASI, Boisd.; Walk. ib. p. 141.

C. LYCETUS, Cram. t. 61. f. D.

C. BISECTA, Horsf. (*C. silhetensis*, Walk. ib. p. 143).

MACROGLOSSA PASSALUS, Drury, Ins. ii. pl. 29. f. 2.

M. CORYTHUS, Boisd. (Walk. Cat. Lep. Het. B. M. pt. 8. p. 92).

M. GYRANS, Boisd. (Walk. ib. p. 91).

LOPHURA HYAS, Boisd. (Walk. ib. p. 107).

SATASPES INFERNALIS, Westw. Cab. Orient. Ent. pl. 30. f. 3.

SESIA HYLAS, Linn. (Cram. t. 148. f. B).

Balasore.

#### Tribe 2. BOMBYCES.

##### Fam. ÆGERIIDÆ.

MELITTA BOMBYLIFORMIS, Cram. t. 400. f. C.

M. EURYTION, Westw. Cab. Orient. Ent. pl. 30. f. 5.

## Fam. AGARISTIDÆ.

## VITHORA, n. g., Moore.

*Male.* Body long, attenuated. Head and thorax covered with long hairs. Palpi porrect, extending beyond the head, pilose, third joint cylindrical. Antennæ long, slender at the base, thickened at the apex. Fore and middle legs slender; tibiæ of middle legs with two appendages, the inner longest. Tarsi long. Hind legs stout; femora covered with long hairs; tibiæ thickened in the middle, armed with two pairs of short appendages, the first pair terminal, the other pair subterminal. Tarsi short. Wings of slight texture, long, narrow; hind wings extending beyond posterior margin of fore wings; fore wing with the costal vein extending to within one-third of the apex; subcostal vein six-branched, first, second, and fifth branch contiguous at their base, third and fourth remote, sixth arising from the base of the first.

Allied to the genus *Hespagarista*.

VITHORA INDRASANA, n. sp. (Pl. XLII. f. 5.)

*Male.* Upperside fuliginous black, tinged with yellowish at the base; fore wing basally, base and end of the cell, a spot beneath the cell, and a discal series of irregular-shaped spots white; hind wing with the space from near the base and covering the disk and lower portion of the wing white, with black presenting itself in a series of discal spots. Body ferruginous, spotted with black.

Expanse  $2\frac{3}{8}$  inches.

N.E. Bengal. In Coll. A. E. Russell.

ÆGOCERA VENULIA, Cram. t. 165. f. D.

EUSEMIA MACULATRIX, Westw. Nat. Libr. pl. 2. f. 3; Orient. Ent. pl. 33. f. 1.

E. DENTATRIX, Westw. Cab. Orient. Ent. pl. 33. f. 5.

E. ADULATRIX, Kollar, Hügel's Kasch. iv. pl. 20. f. 1.

*E. bellatrix*, Westw. ib. pl. 33. f. 2.

E. VICTRIX, Westw. ib. pl. 33. f. 3.

PHÆGORISTA TRANSIENS.

*Eusemia transiens*, Walk. Cat. Lep. Het. B. M. pt. 7. p. 1588.

*Phægorista catocaloides*, Walk. Journ. Linn. Soc. vi. p. 87.

Darjeeling.

P. LONGIPENNIS.

*Catocala longipennis*, Walk. Cat. Lep. Het. B. M. Noctuidæ, Suppl.

Darjeeling.

P. BALA, n. sp.

*Male* greyish brown: fore wing slightly purple brown at the apex

and along posterior margin; a reddish-brown spot at posterior angle; two very slender pale-grey ocelli, the first small and within the cell, the second larger and beyond; inferior veins pale grey; some transverse discal pale lines; cilia greyish brown: hind wing deep yellow, with a broad irregular inner margined band, a small discal spot, and a slight streak from the base blackish brown; cilia pale grey. Abdomen deep yellow, with blackish dorsal bands. Underside—fore wing paler greyish brown; space within the cell enclosing a large round blackish spot, and oblique streak beyond, white; a whitish space at posterior angle: hind wing yellow, with suffused greyish-brown marginal band terminating in a darker spot near anal angle; a blackish discal spot. Body yellow; fore legs greyish brown.

Expanse  $1\frac{7}{8}$  inch.

Darjeeling. In Coll. W. S. Atkinson; Brit. Mus.; F. Moore.

NYCTALEMON PATROCLUS, Linn. (Cram. pl. 198. f. 2.

CALLIDULA PETAVIA, Cram. t. 365. f. C, D.

Bengal.

CLEOSIRIS CATAMITA, Hübn. Zutr. f. 653–4; Boisd. Spéc. Gén. Léop. i. pl. 23. f. 3; Westw. & Hewits. Diurn. Lep. pl. 77. f. 9.

Fam. LITHOSIIDÆ.

HYPSA ALCIPHON, Cram. t. 133. f. E.

H. CARICÆ, Fabr. Ent. Syst. p. 27.

H. EGENS, Walk. Cat. Lep. Het. B. M. ii. p. 453.

H. FICUS, Fabr. (Cram. t. 262. f. A, B).

H. HELICONIA, Linn. Syst. Nat. p. 839.

H. PLANA, Walk. Cat. Lep. Het. B. M. ii. p. 450.

ANAGNIA SUBFASCIA, Walk. ib. p. 446.

TINOLEUS EBURNEIGUTTA, Walk. ib. iii. p. 621.

Darjeeling.

CISPIA PUNCTIFASCIA, Walk. ib. iv. p. 857.

C. VENOSA, Walk. Tr. Ent. Soc. 3rd ser. i. p. 264.

DIGAMA HEARSEYANA, Moore, Cat. Lep. E. I. C. ii. p. 298, pl. 7. f. 3.

*Scydra halesidotalis*, Walk. Cat. Lep. Het. B. M. Suppl.

MACROBROCHIS GIGAS, Walk. (H.-Schæff. Lep. Exot. f. 531).

TRIPURA PRASENA, Moore, Cat. Lep. E. I. C. ii. pl. 7. f. 6.

VITESSA SURADEVA, Moore, ib. f. 7.

## GROTEA, n. g., Moore.

Palpi erect ; third joint short. Antennæ long, filiform. Thorax and body broad, robust. Abdomen as long as the hind wings. Fore wings large, broad, elongate ; costa arched at the base ; apex somewhat pointed, exterior margin slightly oblique. Hind wings large, trigonate ; the apex produced, outer margin slightly concave below the apex, rounded posteriorly. Subcostal vein of fore wing five-branched ; first, second, and fifth joined at their base ; third and fourth remote, arising beneath from the second at equal distances.

## GROTEA ELEGANS, n. sp. (Pl. XLIII. f. 1.)

*Female* orange-yellow ; fore wing with seven black spots at the base, beyond which are two transverse elbowed series of purplish-white black-bordered spots, the outer half of the wing being covered with similar series of more or less suffused purplish maculated bands, the interspaces of which apically are wholly purplish black ; hind wing with an irregular basal series, a lower discal row, a submarginal and marginal row of black spots, those of the two latter at the apex confluent. Thorax and abdomen spotted with black.

Expanse  $5\frac{1}{2}$  inches.

N.E. Bengal. In Coll. A. Grote, Esq.

BARSINE DEFECTA, Walk. Cat. Lep. Het. B. M. ii. p. 546.

Darjeeling.

B. NUBIFASCIA, Walk. ib. Suppl. p. 251.

LITHOSIA MAGNIFICA, Walk. Journ. Linn. Soc. vi. p. 103.

L. VIRIDATA, Walk. Cat. Lep. B. M. Suppl. p. 225.

L. DISJUNCTA, n. sp.

*Male*. Fore wing yellow, with the costa to near the tip, a sub-apical streak, a short oblique transverse line near base of inner margin, beyond which is an elongated triangular streak, metallic green, the space between the two latter buff brown, which colour also suffuses the middle of the wing ; hind wing yellowish white. Thorax yellow ; tegulæ metallic green ; abdomen yellow. Differs from *L. viridata* in being larger and having broader fore wings.

Expanse 2 inches.

Darjeeling. In Coll. A. E. Russell.

L. VARANA, n. sp.

*Male*. Upperside pale testaceous white. Underside with the fore wing pale brown, except a costal line, which with the hind wing is testaceous white. Antennæ and tip of palpi brown. Abdomen pale fawn-colour at the base, yellow at the tip. Legs yellow ; front of fore legs brown. Front of thorax and head pale yellow.

*Female?* white, with a yellowish costal line.

Expanse  $1\frac{3}{8}$  inch.

Darjeeling. In Coll. A. E. Russell ; W. S. Atkinson ; Brit. Mus. ; F. Moore.



*L. BEEMA*, n. sp.

*Female*. Fore wing uniform pale greyish brown; hind wing pale yellow, with a broad greyish patch extending from the inner margin. Body greyish brown.

Expanse 2 inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*L. REMELANA*, n. sp.

*Male* white; fore wing with a transverse discal black band; the costal and upper portion of exterior margin black; hind wing with a large black discal spot.

*Female*. Fore wing with the costal and upper portion of exterior margin, a small spot on the disk, and a larger spot on the disk of hind wing black. Body white.

Expanse, ♂  $1\frac{5}{8}$ , ♀  $2\frac{1}{8}$  inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*L. BASINOTA*, n. sp.

*Male* and *female* greyish brown; fore wing dark brown, with a pale narrow line along the veins, and a pale greyish-brown spot at the base of posterior margin; hind wing very pale greyish brown. Thorax, head, antennæ, palpi, legs, and abdomen beneath dark brown. Abdomen above pale greyish brown, somewhat luteous at the tip in the male. Underside dark greyish brown; fore wing in the male with an ill-defined longitudinal ferruginous streak from the base.

Expanse  $1\frac{7}{8}$  inch.

Darjeeling. In Coll. W. S. Atkinson; Brit. Mus.; F. Moore.

*L. RETICULATA*, n. sp.

*Male* and *female* pale luteous brown: fore wing delicately reticulated with brown; a transverse discal ill-defined darker fasciated line. Underside pale luteous, pale brown within the disk of fore wing.

Expanse  $1\frac{2}{5}$  inch.

Darjeeling. In Coll. W. S. Atkinson; Brit. Mus.; F. Moore.

*BIZONE PERORNATA*, Walk. Cat. Lep. Het. B. M. ii. p. 548.

*B. GUTTIFERA*, Walk. ib. vii. p. 1779.

*B. DELICATA*, Walk. ib. ii. p. 550.

*B. fasciculata*, Walk. ib. viii. p. 1684.

*B. DIVAKARA*, n. sp. (Pl. XLIII. f. 9.)

*Male* white. Fore wing incrassated in front beyond the middle, with two transverse discal bands joined together below and enclosing two black spots, a streak along the base of the costa, and another below it joining the inner transverse band saffron-yellow; exterior margin saffron-yellow. Thorax with saffron-yellow band and spots.

Expanse  $1\frac{5}{8}$  inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

UTETHESIA PULCHELLA, Linn. (Cram. t. 109. f. E).

CASTABALA ROSEATA, Walk. Cat. Lep. Het. B. M. Suppl. p. 271.

ARGINA ASTREA, Drury, Ins. ii. pl. 6. f. 3.

A. DULCIS, Walk. (Cram. t. 288. f. D).

A. ARGUS, Kollar, Hügel's Kasch. iv. pl. 21. f. 3.

A. SYRINGA, Cram. t. 5. f. C, D.

Fam. CHALCOSIIDÆ.

HISTIA FLABELLICORNIS, Fabr. (Cram. t. 30. f. E).

H. PAPILIONARIA, Guér. Mén. Mag. Zool. p. 12 (Westw. Arc. p. 20).

CYCLOSIA SANGUIFLUA, Drury, Ins. ii. pl. 20. f. 1, 2, ♀.

C. MIDAMA, Boisd., H.-Schæff. Lep. Exot. pl. 2. f. 7, ♂, 8, ♀.

*C. venusta*, Walk. Cat. Lep. Het. B. M. ii. p. 416.

C. PAPILIONARIS, Drury, Ins. ii. pl. 11. f. 4.

EPICOPEIA VARUNÆA, n. sp.

*Male.* Upperside without markings of any kind; fore wing fuliginous, base and veins black; hind wing black, with steel-blue gloss. Underside paler; fore wing with a crimson costal spot descending across the cell; hind wing with a spot on anterior margin before the angle, a narrow lunule below it, and a small spot on anal lobe crimson.

*Female.* Upper- and underside as in male.

Expanse  $4\frac{1}{2}$  to  $4\frac{3}{4}$  inches.

Darjeeling. In Coll. A. E. Russell.

*Remark.*—The hind wing in this species is considerably produced, being  $2\frac{2}{1\frac{1}{2}}$  inches in length from the base to the tip.

E. PHILOXENÆA, n. sp.

*Male.* Upperside—fore wing fuliginous, the base and veins black; a small crimson spot on the costa one-third from the base; hind wing black, with steel-blue gloss; a white discal patch composed of two conical-shaped spots and an outward descending streak; a series of ill-defined spots on exterior margin pale crimson, and a brighter-crimson spot on anal lobe. Head and tip of abdomen pale crimson; thorax and abdomen above black with steel-blue gloss, beneath pale crimson with black bands and lateral spots. Underside paler, the crimson costal spot on fore wing large and descending across the cell; the white discal patch on the hind wing joined on the outer side by an ascending pale-crimson irregular-shaped band, and on the inner side by a descending narrow crimson streak to a spot on the

lobe of abdominal margin, which spot with four other oval-shaped spots on the exterior margin are pale crimson.

Expanse  $4\frac{1}{2}$  inches.

Darjeeling. In Coll. A. E. Russell.

*Remark.*—This species has the hind wing much produced, being over 2 inches in length from base to tip, the exterior margin being nearly straight.

*E. DIPHILÆA*, n. sp.

*Male.* Upperside—fore wing fuliginous, base and veins black; hind wing black, with steel-blue gloss, and having two white oval-shaped discal spots and an outer descending white streak, a narrow lunule on anal lobe and one or two small marginal bright crimson spots. Underside paler; fore wing with a crimson costal spot; hind wing with the white discal spots crimson-margined, above which are three small crimson spots before the angle, and below it three crimson spots, one on the anal lobe, the other two on exterior margin. Thorax and abdomen above black, with steel-blue gloss; head and body beneath crimson, the latter with black bands.

Expanse  $4\frac{1}{2}$  inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*Remark.*—In this species the hind wing has the same truncated form as in *E. philenora*.

*ERASMIA PULCHELLA*, Hope, Linn. Trans. xviii. pl. 31. f. 5.

*PHILOPATOR*, n. g., Moore.

Antennæ slightly pectinated to the tips. Palpi very small; third joint cylindrical. Proboscis rather short. Abdomen short. Fore wing elongated; costa arched at the base; apex rounded; exterior margin oblique; inner margin nearly straight; four superior veins, the third trifurcate; four inferior veins, the first and second joined from near the discal veinlet. Hind wings rounded posteriorly.

*PHILOPATOR BASIMACULATA*, n. sp. (Pl. XLII. f. 6.)

*Female* whitish, semihyaline; both wings yellow at the base, which is bordered outwardly by a fuliginous black irregular band, within which are several black spots; margins of the wings and streaks between the veins suffused fuliginous black. Antennæ black; thorax above black, with small yellow spots. Abdomen above brown, with a pale-yellowish waistband. Head and legs yellow. Thorax and abdomen beneath yellow, with black spots.

Expanse 2 inches.

Darjeeling. In Coll. A. E. Russell.

*CHELURA BIFASCIATA*, Hope, Linn. Trans. xviii. p. 444.

*CADPHISES*, n. g., Moore.

Antennæ closely pectinated to the tips. Palpi short; third joint

linear. Head conical; proboscis short. Abdomen short, extending to half the length of hind wings. Legs slender; middle and hind tibiæ with two apical spurs. Fore wing elongated; costa slightly arched; apex rounded; exterior margin oblique, inner margin abbreviated; veins slightly contorted towards the apex; three superior veins, the second trifurcate, the middle fork having a short additional branch; four inferior veins, the first and second joined from near the discal veinlet. Hind wings broadly trigonate.

*CADPHISES MACULATA*, n. sp. (Pl. XLII. f. 7.)

*Male* and *female* fuliginous black. Fore and hind wings on the upper- and undersides with a numerous series of ochreous-white spots in the male, and white in the female, disposed linearly between the veins; abdominal margin broadly in the male ochreous yellow, and in the female gamboge-yellow. Antennæ and legs black. Head and body black, spotted with white.

Expanse, ♂  $2\frac{1}{2}$ , ♀ 3 inches.

Darjeeling. In Coll. A. E. Russell.

*CHALCOSIA PECTINICORNIS*, Linn. (H.-Schæff. Lep. Exot. pl. 1. f. 6).

*C. CORUSCA*, Boisd., H.-Schæff. ib. f. 1.

*C. zuleika*, Walk. Cat. Lep. Het. B. M. ii. p. 423.

*LAURION GEMINA*, Walk. Cat. Lep. Het. B. M. ii. p. 427.

*PIDORUS GLAUCOPIS*, Drury, Ins. ii. pl. 6. f. 4.

*ETERUSIA ÆDEA*, Linn. (Clerck, Icon. t. 4. f. 2).

*E. SCINTILLANS*, Boisd., H.-Schæff. Lep. Exot. i. f. 154.

*E. sublutea*, Walk. Cat. Lep. Het. B. M. p. 430.

*E. EDOCLA*, Doubleday, Zool. ii. p. 469.

*E. CIRCINATA*, Boisd., H.-Schæff. ib. f. 156.

*E. SXPUNCTATA*, Walk. Cat. Lep. Het. B. M. p. 432.

*E. FERREA*, Walk. ib. p. 431.

*E. SHAHAMA*, n. sp.

*Female*. Upperside black; fore wing with a narrow streak at the base of the costa, another beneath the cell, a round spot at the extremity of the cell, and a submarginal series of shorter streaks saffron-yellow; a series of four rather large white spots obliquely crossing the wing from the middle of the costa; hind wing with the lower part from near the base bright orange-yellow, and a small outer discal spot of the same colour, a streak along the base of the anterior margin and a subapical spot white. Head and body bluish black. Thorax above with a spot on each shoulder, and abdomen with lateral bands, saffron-

yellow. Underside—fore wing with the veins lined with steel-blue, the streaks and spots whitish; hind wing with the anterior margin, including the cell and exterior margin, washed with pale saffron-yellow, the lower part of the wing beneath the cell bright orange-yellow. Body beneath with pale saffron-yellow streaks.

Expanse  $2\frac{2}{3}$  inches.

Darjeeling. In Coll. W. S. Atkinson; F. Moore.

SCAPTESYLE TRICOLOR, Walk. Cat. Lep. Het. B. M. ii. p. 378.

CANERKES, n. g., Moore.

Body rather short, attenuated in the male, stout in the female, which has an exerted ovipositor. Head prominent, truncated in front. Palpi very short. Antennæ long, closely pectinated in the male, minutely pectinated and clavate in the female. Legs slender; middle tibiæ with two minute apical spurs. Fore wings long, narrow. Hind wings broad, quadrate, extending beyond the tip of the abdomen. Subcostal vein of fore wing four-branched; the third trifurcate.

CANERKES EUSCHEMOIDES, n. sp. (Pl. XLII. f. 8.)

*Male.* Fore wing yellow to one-third of its length; two small spots at the base and two larger transversely disposed spots beyond black; the remainder of the wing black, the veins being blue; a white spot within the cell one-third from its end; an irregular transverse series of white discal spots; hind wing yellow; a short basal streak, a large patch covering the fore part of the wing, enclosing four yellow spots, purple brown; veins lined with purple brown. Head and body yellow; thorax with a frontal band, lateral and dorsal spots, and narrow abdominal bands purple-brown.

*Female* as in male, but with the markings more prominent and broader.

Expanse, ♂  $2\frac{1}{2}$ , ♀ 3 inches.

Cherra Poonjee; Silhet. In Coll. F. Moore; W. S. Atkinson.

PHALANNA POLYMENA, Linn. (Cram. t. 13. f. D).

Calcutta.

SYNTOMIS DIAPHANA, Kollar, Hügel's Kasch. iv. pl. 10. f. 7.

?*S. melas*, Walk.

*S. CREUSA*, Linn. (Cram. t. 243. f. F).

*S. MULTIGUTTA*, Walk. Cat. Lep. Het. B. M. i. p. 134.

Darjeeling.

*S. SCHÖNHERRI*, Boisd. Monogr. Zyg. pl. 7. f. 1.

*S. SUBCORDATA*, Walk. Cat. Lep. Het. B. M. p. 132.

*S. HÜBNERI*, Boisd. Monogr. Zyg. pl. 8. f. 4.



EUSCHEMA MILITARIS, Linn. (Cram. t. 29. f. 13).

NYCTEMERA LACTICINIA, Cram. t. 128. f. E.

N. LATISTRIGA, Walk. Cat. Lep. Het. B. M. ii. p. 397.

N. VARIANS, Walk. ib. p. 400.

Silhet.

N. MACULOSA, Walk. ib. Suppl. p. 198.

PTEROTHYSANUS LATICILIA, Walk. (Moore, Cat. Lep. E. I. C. ii. pl. 8. f. 8).

Fam. LIPARIDÆ.

REDOA CLARA, Walk. Cat. Lep. Het. B. M. Suppl. p. 343.

R. ARGENTEA, Walk. ib. iv. p. 827.

*Dasychira ilita*, Moore, Cat. Lep. E. I. C. ii. p. 341.

R. SORDIDA.

♂. *Stilpnotia sordida*, Walk. Cat. Lep. Het. B. M. vii. p. 1732.

♀. *Leucoma subvitrea*, Walk. ib. Suppl. p. 344.

PROCODECA ANGULIFERA, Walk. ib. iv. p. 919, ♂.

♀. *Ricine suffusa*, Walk. ib. p. 824.

PSALIS SECURIS, Hübn. Zuträge, f. 291-2, ♀.

♂. *Arestha antica*, Walk. Cat. Lep. Het. B. M. p. 805.

♀. *Rigema falcata*, Walk. ib. Suppl. p. 437.

♀. ———? *falcatella*, Walk. ib.

♀. *Anticyra approximata*, Walk. ib. Suppl. p. 440.

NAXA TEXTILIS, Walk. ib. iv. p. 1743.

GENUSA CIRCUMDATA, Walk. ib. p. 819.

AROA PYRRHOCHROMA, Walk. ib. Suppl. p. 329.

ORGYIA PLANA, Walk. ib. p. 786.

O. ALBIFASCIA, Walk. ib. Suppl. p. 325.

O. SUBFASCIA, n. sp.

*Male* ochreous brown; head and palpi ochreous; antennæ black; fore wing with a paler oblique suffused band, which extends from beneath the middle of the costa to posterior angle. Underside—fore wing darker brown, the oblique band more defined.

Expanse  $1\frac{1}{2}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

DASYCHIRA ANTICA, Walk. Cat. Lep. Het. B. M. p. 867.

*D. COMPLICATA*, Walk. ib. Suppl. p. 362, ♂.

*Trisula pustulifera*, Walk. ib. Suppl. p. 576, ♂.  
Darjeeling.

*D. TENEBROSA*, Walk. ib. Suppl. p. 360.

Darjeeling.

*D. BHANA*, n. sp.

*Male* dark brown: fore wing with five transverse lines of black lunules, bordered outwardly with chalybeous speckles; a ferruginous spot beyond the discal cell: hind wing paler brown, with two indistinct darker suffused transverse discal bands. Underside brown, with two ill-defined darker transverse discal bands. Cilia alternate pale and dark brown.

Expanse  $1\frac{1}{2}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

Allied to *D. tenebrosa*, Walk.

*D. FLAVIMACULA*, n. sp.

*Male* fuliginous brown: fore wing with two subbasal and two discal transverse undulating black lines, bordered with rufous brown; a double black spot with rufous-brown border on discal veinlet; a narrow yellow spot from posterior angle; a marginal blackish lunulated line. Underside paler, with a recurved blackish band crossing the disk of both wings; a black lunule on discal veinlet. Cilia with black spots.

Expanse  $1\frac{8}{12}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

#### HERACULA, n. g., Moore.

Body short; abdomen slender. Head prominent. Palpi short, not extending beyond the head, densely pilose; third joint conical. Antennæ rather short, minutely serrated. Wings broad exteriorly; costa nearly straight to one-third its length, rounded at the apex; exterior margin slightly convex; posterior margin nearly straight. Four superior veins, the second three-branched, the third proceeding from the second at one-third its length, and the fourth from near its base. Cell closed. Hind wing rounded exteriorly. Legs rather small; femora densely pilose beneath; mid tibiæ armed with a pair, and hind tibiæ with two pairs, of long apical spurs.

*HERACULA DISCIVITTA*, n. sp. (Pl. XLIII. f. 2.)

Upperside chocolate-brown; fore wing with a broad medial transverse discal much darker band, the exterior margin of which is concave, and the interior nearly circular by extending along the costa and terminating below its base, both margins with a narrow pale-white border; hind wing subdued brown, with a rather broad pale-chocolate-brown marginal band. Underside brown; apical half of

fore wing and marginal band of hind wing paler brown. Body dark brown. Antennæ, palpi, and legs blackish.

Expanse 2 inches.

Darjeeling. In Coll. A. E. Russell.

MARDARA CALLIGRAMMA, Walk. Cat. Lep. B. M. Suppl. p. 402.

SOMERA VIRIDIFUSCA, Walk. ib. iv. p. 882.

LYMANTRIA OBSOLETA, Walk. ib. iv. p. 880, ♂.

♀. *L. bhascara*, Moore, Cat. Lep. E. I. C. ii. p. 345.  
Balasore.

L. ALBICANS, Walk. Cat. Lep. Het. B. M. Suppl.

L. SUPERANS, Walk. ib. p. 876, ♀.

L. CONCOLOR, Walk. ib. p. 876, ♀.

L. GRANDIS, Walk. ib. p. 874.

L. SEMICINCTA.

*Alope semicincta*, Walk. ib. iii. p. 620.  
Raneegunge.

L. BASINIGRA, n. sp.

Upperside greyish brown: fore wing with a broad subbasal transverse fuliginous black patch, which is bordered outwardly by a darker black line; a series of black lunulated pale-bordered lines obliquely before the apex to beyond the posterior angle, between which and the outer margin are some black spots: hind wing and underside paler, without markings. Thorax and head black. Palpi, legs, abdomen, and antennæ greyish brown.

Expanse  $2\frac{2}{8}$  inches.

Balasore, Bengal. In Coll. A. E. Russell

L. MATHURA, n. sp.

*Male*. Upperside—fore wing greyish white, markings brown, with pale-brown interspaces; with two or three black and yellow spots at the base; two transverse subbasal irregular lines, between which is a broad band; a round spot within the cell and a blackish curved streak at its end; three transverse discal lunulated bands, the first broad, the others narrow; a marginal row of spots: hind wing dull yellow, with a blackish discal spot, narrow submarginal maculated band, and a marginal row of small spots. Underside dull yellow, suffused with pale brown between the veins, with darker-brown discal and marginal spots. Thorax white, with yellow and black spots. Abdomen yellow, tuft white, with dorsal, lateral, and a row beneath of black spots. Head at the sides, palpi in front, and legs yellow; palpi above and at the sides, and spots on the legs, black. Antennæ brown.

Expanse  $2\frac{1}{4}$  inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

EUPROCTIS VIRGUNCULA, Walk. Cat. Lep. Het. B. M. iv. p. 836.

E. DIVISA, Walk. ib.

E. LUTESCENS, Walk. ib. p. 837.

E. ATOMARIA, Walk. ib. p. 837.

E. PARTITA.

*Numenes partita*, Walk. ib. Suppl. p. 290.  
Darjeeling.

E. RANA, n. sp.

*Male*. Upperside yellow; fore wing with the basal two-thirds irrorated with dark-brown scales, which also extend from within the cell to the middle of the outer margin in a more densely irrorated elbowed line, below which the wing is whitish; two medial irregular transverse widely separated narrow white bands from costal to posterior margin: hind wing with the abdominal margin suffused with brown. Underside pale yellow, without markings. Antennæ and body brown.

Expanse  $2\frac{1}{2}$  inches.

Silhet. In Coll. A. Grote, Esq.

NUMENES INSIGNIS, Moore, Cat. Lep. E. I. C. ii. pl. 10 a. f. 6.

*N. siletti*, Walk.

N. PATRANA, Moore, ib. p. 367.

LEUCOMA LATIFASCIA, Walk. Cat. Lep. Het. B. M. p. 831.

? *Euproctis melanophila*, Walk. ib. Suppl. p. 349.

ARTAXA VARIANS, Walk. ib. p. 796.

A. INCONCISA, Walk. ib. Suppl. p. 332.

DREATA UNDATA, Blanch. Jacquemont's Voy. Ins. pl. 1. f. 8.

*D. undifera*, Walk. ib. p. 904.

D. MUTANS, Walk. ib. p. 904.

D. CITRINA, Walk. ib. p. 905.

APONA CASHMIRENSIS.

*Gastropacha cashmirensis*, Kollar, Hügel's Kasch. iv. p. 472. t. 21.  
f. 4, ♀ (1844).

*Apona pallida*, Walk. Cat. Lep. Het. B. M. p. 1763 (1856), ♀.

*Male* brownish fawn-colour; fore wing with three subbasal indistinct brown transverse lines, beyond which is a small black spot near the costa; a transverse discal oblique series of six brown undulating lines, the outer line on each side the darkest, that of the exterior side with a pale inner border; a submarginal series of suffused

brown lunules: hind wing with a discal series of six indistinct undulating brown lines. Underside ferruginous brown; the discal lines of fore wing indistinct, those of the hind wing more distinct than on the upperside. Body ferruginous brown. Antennæ long and broadly bipectinated to the tips; shaft white; plumes brown. Femur and tibia densely clothed with long ferruginous-brown hairs.

Expanse  $3\frac{3}{4}$  inches.

Darjeeling. In Coll. A. E. Russell.

JANA LINEOSA, Walk. ib. p. 912.

J. CERVINA, n. sp.

Male pale fawn-colour; fore wing with two oblique discal chestnut-brown narrow bands, a third being slightly apparent near the base, the outer bordered with a broad lunular-margined dusky band; hind wing with three ill-defined discal bands. Antennæ and palpi above fuliginous. Abdomen with pale chestnut-brown waist.

Expanse  $3\frac{1}{2}$  inches.

Darjeeling. In Coll. W. S. Atkinson and Brit. Mus.

TAGORA GLAUDESCENS, Walk. ib. v. p. 1188.

Darjeeling.

T. PANDYA, n. sp.

Upperside greyish fawn-colour; fore wings with several transverse indistinct brown undulating lines, curving inwardly to the costa, bordered exteriorly by an oblique dark double line extending from the apex to the inner margin; hind wing with a similar series of undulating lines and dark-bordered double line; both wings with a submarginal series of blackish spots.

Expanse  $3\frac{1}{2}$  to 4 inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

Allied to *T. patula*; but may be distinguished by its wanting the two vitreous discal spots.

GANISA PLANA, Walk. (Moore, Cat. Lep. E. I. C. ii. pl. 10 a. f. 5).

Fam. PSYCHIDÆ.

? CRYPTOHELEA CONSORTA, Templeton, Ent. Trans. v. pl. 5. f. 6, 7.

PSYCHE, sp.

PERINA BASALIS, Walk. Cat. Lep. Het. B. M. iv. p. 966, ♂.

♀. *Euproctis antica*, var. ♂, Walk.

Fam. ARCTIIDÆ.

ALOPE OCELLIFERA, Walk. Cat. Lep. Het. B. M. ii. p. 620.

ALPHEA FOLVOHIRTA, Walk. ib. iii. p. 684.

Darjeeling.



HYPERCOMPA MULTIGUTTATA, Walk. ib. p. 657.

HYPERCOMPA EQUITALIS, Kollar, Hügel's Kasch. iv. pl. 20. f. 3.

H. PLAGIATA, Walk. ib. p. 655.

CREATONOTUS INTERRUPTA, Linn. (Cram. t. 185. f. E).

C. EMITTENS, Walk. ib. p. 638.

PHISSAMA TRANSIENS.

*Phissoma transiens*, Walk. ib. p. 675.

AREAS ORIENTALIS, Walk. p. 658.

SPILOSOMA MULTIVITTATA, n. sp.

*Male* creamy white: fore wing with five transverse maculated fuliginous black narrow bands, the first subbasal, the second elbowed across the cell and joining the first on the costa, which is black along its base, third obliquely from middle of posterior margin to the costa before the apex, fourth from near posterior angle crossing the third to costa, fifth submarginal; a small black spot crossed by the discal veinlet: hind wing with a submarginal fuliginous line and a spot on discal areolet. Head in front, palpi, thorax beneath, and legs in front black; sides of thorax tinged with crimson; abdomen above reddish, with dorsal and lateral black dots; body and legs beneath yellowish.

Expanse  $1\frac{3}{8}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

S. RHODOPHILA, Walk. Cat. Lep. Het. B. M. Suppl. p. 294.

S. RUBIDORSA, n. sp.

*Male* white: fore wing with an oblique narrow grey maculated band, a small grey spot within the discal veinlet, and another spot near the base of the cell; hind wing with two submarginal grey spots and a smaller one within discal veinlet. Head black on each side in front; palpi black, beneath crimson; thorax crimson on each side and beneath in front. Legs black in front; fore femur crimson in front. Abdomen crimson above, without dorsal but with a lateral row of black dots; anal tuft white.

Expanse  $1\frac{1}{2}$  inch.

Darjeeling. In Coll. A. E. Russell.

S. SORDIDA, n. sp.

*Male* pale buff-brown; hind wings paler, with a pale submarginal fuliginous band and a spot on discal veinlet; abdomen above dull red, with dorsal and lateral row of blackish dots; sides of head, palpi above, legs in front, and antennæ fuliginous.

Expanse  $1\frac{2}{10}$  inch.

Darjeeling. In Coll. A. E. Russell.

*S. RUBITINCTA*, n. sp.

*Male*. Upperside—fore wing pale reddish buff-colour, yellowish apically; a short yellow-bordered maculated black line obliquely from middle of posterior margin, beyond which is a very short longitudinal black streak. Underside white, delicately suffused with pale pink on abdominal margin; three small black spots, two submarginal, the third on discal veinlet. Thorax pale reddish buff. Abdomen above red, with dorsal and lateral black spots; anal tuft white. Head buff-yellow; sides of head, palpi above, front of legs, and antennæ black. Thorax on the sides and beneath in front crimson. Underside pale buff-yellow; the short longitudinal black streak on fore wing and spots on hind wing as above.

Expanse  $1\frac{5}{8}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*S. NIGRIFRONS*.

*Icambosida nigrifrons*, Walk. Cat. Lep. Het. B. M. Suppl. p. 401.

*Male*. Upperside white. An indistinct grey dot on discal veinlet of hind wing. Thorax in front buff-yellow. Palpi, head in front, thorax beneath, and legs in front black. Abdomen yellow above; beneath black, with white bands; anal tuft white.

Expanse  $1\frac{3}{8}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*S. FLAVALIS*, n. sp.

*Male*. Upperside buff-yellow: hind wing yellowish white, with two blackish spots, one near the anal angle, the other on discal veinlet. Underside buff-white, the two spots on hind wing prominent. Sides of head, palpi above, and legs in front black. Abdomen with lateral row of black spots. Antennæ black.

Expanse  $1\frac{1}{2}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*S. LATIVITTA*, n. sp.

*Male*. Upperside buff-yellow: fore wing with a rather broad maculated grey band obliquely from middle of posterior margin diminishing to the apex, where also there are some small submarginal spots; a grey spot near the base of the wing: hind wing whitish, with three blackish spots, two being submarginal near the angles, the third on discal veinlet. Sides of head, palpi above, legs in front, dorsal and lateral spots on abdomen black. Antennæ brown.

Expanse  $1\frac{1}{2}$  inch.

Darjeeling. In Coll. A. E. Russell.

*S. STIGMATA*, n. sp.

*Male* pale buff-yellow: fore wing with a dot at the base; two subbasal spots, a spot on middle of costa, below which an oblique series of spots to posterior margin, and two submarginal transverse series of short longitudinal streaks black: hind wing yellowish white,

with two rather large blackish spots from anal angle, and a third near anterior angle. Thorax branded with a black stripe down the middle. Abdomen reddish above, with dorsal and lateral black dots. Front of head, palpi, front of thorax beneath, legs in front, and abdomen black.

Expanse  $1\frac{3}{4}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*S. SANGUINALIS*, n. sp. ✓

*Male*. Upperside buff-colour: fore wing with minute black streaks near the base; an oblique recurved transverse discal series of small longitudinal black streaks, disposed in widely separated pairs, each pair divided by a vein; a shorter submarginal series of similar streaks below the apex: hind wing suffused with red at the base; a large spot on discal veinlet, and a submarginal series decreasing in size from near anal angle. Abdomen above deep crimson, without dorsal but with a lateral row of black spots. Head in front, palpi, thorax beneath, femora at the tips, tibiæ, tarsi, and antennæ black; femora (except the tips) crimson; body beneath yellow. Underside yellow: fore wing suffused with bright crimson from the base to beyond the middle; a black spot on discal veinlet, a second spot near the costa before the apex, below which is an oblique discal streak: hind wing with spots as above.

*Female*. Upperside paler; hind wings suffused with red. Underside yellow suffused with red; fore wing with the spot nearly obsolete.

Expanse  $1\frac{3}{4}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*S. RUBILINEA*, n. sp. ✓

*Male* brownish buff-colour: fore wing with two (and in some three) recurved transverse red lines, with or without short black streaks, the first subbasal, the other two discal and oblique; a short outer medially submarginal series of black streaks; a small reddish spot on discal veinlet: hind wing pale buff, suffused with crimson at the base; a large spot on discal veinlet and large submarginal spots black. Abdomen deep red above, beneath yellow, with a dorsal and two lateral rows of black spots. Head at the sides, palpi, thorax in front beneath, femora at the tips, tibiæ and tarsi, and antennæ black; femora (except the tips) in front red. Underside buff-yellow; fore wing slightly suffused with crimson from the base; both wings with a short longitudinal streak at the base, another within the cell, a large quadrate spot on discal veinlet, and oblique submarginal series of spots black.

Expanse  $1\frac{7}{8}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*S. DISCINIGRA*, n. sp. ✓

*Male*. Upperside buff-brown: fore wing with the edge of the costa

reddish ; two transverse ill-defined reddish slightly spotted lines, between which is a reddish spot on discal veinlet ; a short series of ill-defined black streaks before the apex, and another short submarginal series : hind wing paler, the medial portion from the base black, where the veins are pale red and suffused on the abdominal margin with pale red. Abdomen deep red above, yellowish beneath, with ill-defined dorsal and large lateral black spots. Underside buff-yellow ; fore wing with the base of the costa, and veins basally, pale crimson, with the interspaces between the veins black ; hind wing with a basal spot, longitudinal streaks from the base, a spot on discal veinlet, and submarginal spots from anal angle black. Sides of head, palpi, femora at the tips, tibiæ, and tarsi black ; thorax beneath black and crimson ; femora (except the tips) crimson in front. Antennæ black. Thorax above with a small triangular black spot.

Expanse  $2\frac{1}{4}$  inches.

Darjeeling. In Coll. A. E. Russell.

Fam. NOTODONTIDÆ.

THIACIDAS POSTICA, Walk. Cat. Lep. Het. B. M. v. p. 1028.

*Drymonia denotata*, Walk. ib. Suppl. p. 414.

*Cnethocampa curvata*, Walk. ib. Suppl. p. 429.

STAUROPUS SIKKIMENSIS, n. sp. (Pl. XLIII. fig. 5.)

*Male*. Upperside greyish brown : fore wing with two irregular transverse yellow-bordered black lunulated lines, the first one-third from the base, the second beyond the cell, the space between which is suffused greyish black with yellow speckles, and having two black marks at the end of the cell ; a small black spot at the base of the wing, where the space to the first transverse line is greyish white ; a submarginal row of black dots, and a marginal line of narrow lunules black, both with a greyish-white inner border : hind wing brown, greyish black along anterior margin, where there are some grey marks ; a marginal lunulated grey line.

Expanse  $1\frac{7}{8}$  inches.

Darjeeling. In Coll. A. E. Russell ; F. Moore.

DAMATA LONGIPENNIS, Walk. Cat. Lep. Het. B. M. v. p. 1044.

Darjeeling.

CELEIA PLUSIATA, Walk. ib. Suppl. p. 463.

C. AURITRACTA, n. sp.

*Male* pale ferruginous brown, very pale along the costa : fore wing with a blackish longitudinal streak from the base beneath the cell to the exterior margin below the apex, where it is interspersed with black dots, medially beneath which is a narrow well-defined re-curved golden metallic streak ; a blackish spot at the apex, preceded by a smaller black spot and brown subcostal dots ; some small black spots near the posterior angle ; exterior margin with a linear row of

black dots. Thorax with a whitish collar. Antennæ broadly pectinated to near the tips.

Expanse  $1\frac{3}{4}$  inch.

N.E. Bengal. In Coll. F. Moore.

*MENAPIA KAMADENA*, n. sp.

*Male* luteous brown: fore wing luteous brown, clearer brown along the costa; on the posterior portion of the wing are two oblique pale darker-bordered streaks, and a series of similar streaks ascending obliquely upward and outward from before the posterior angle, above which is an oblique apical suffused dusky streak; a black dot at the end of the cell: hind wing and abdomen reddish fawn-colour. Palpi at the side black.

Expanse 2 inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

*CERURA LITURATA*, Walk. Cat. Lep. Het. B. M. v. p. 988.

*C. PRASANA*, n. sp.

*Male* and *female*. Upperside—fore wing silvery white; a sub-basal maculated band, a discal apically maculated band continuing in a narrow line to a patch on posterior angle, spots along the costa, and quadrate spots on the cilia black; the maculated bands greyish exteriorly: hind wing whitish basally, fuliginous brown exteriorly; cilia with black spots. Underside white basally, fuliginous exteriorly; costa and quadrate spots on cilia black. Body creamy white; thorax with small black spots; abdomen with fuliginous black bands.

Expanse  $1\frac{1}{2}$  to 2 inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

*C. DAMODARA*, n. sp.

*Female*. Upperside creamy-white; fore wing with basal dots, a subbasal transverse sinuous band, short streaks on the costa, three transverse discal sinuous lines, and short marginal streaks black, each of the latter extending on the cilia: hind wing pale fuliginous brown exteriorly, the veins darker brown; cilia creamy-white with black spots. Thorax buff-white with black spots; abdomen creamy-white with black bands. Underside creamy-white; fore wing with the disk fuliginous, where the veins are darker; costal and marginal streaks black; hind wing with the veins exteriorly, a subapical patch, and marginal spots fuliginous.

Expanse  $2\frac{1}{2}$  inches.

N.E. Bengal. In Coll. A. E. Russell; F. Moore.

*HETEROCAMPA SIKKIMA*, n. sp.

*Male* and *female* greyish brown: fore wing hoary, with yellow speckles between the markings; a black streak from the base, sub-basal transverse marks, a narrow transverse streak closing the cell, and others obliquely beneath; two transverse discal series of black-



ish marks, between which is a row of rather prominent contiguous yellow-speckled streaks; a marginal row of alternate black streaks and whitish points: hind wing, abdomen, and underside pale greyish brown. Thorax, head, palpi, legs in front, and tip of abdomen hoary. Antennæ brown.

Expanse  $1\frac{7}{8}$  to  $2\frac{2}{5}$  inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

## II. ARGENTIFERA, n. sp.

*Male* grey: fore wing dull silvery grey, with two irregular transverse subbasal brown and blackish double lines; some blackish marks on the costa before the apex; a band of three oblique transverse discal blackish brown-margined lunulated lines, which is darkest at the ends; a marginal row of well-defined black lunular spots with silvery-grey centres: hind wing greyish brown apically, very pale ferruginous basally, with brown lunulated marginal line. Thorax, head, palpi, and legs in front grey; thorax with brown collar and blackish spots. Abdomen very pale ferruginous, with grey tip. Antennæ brown. Underside pale ferruginous brown.

Expanse 2 to  $2\frac{1}{4}$  inches.

Darjeeling. In Coll. W. S. Atkinson, Brit. Mus., and F. Moore.

## ICHTHYURA FERRUGINEA, n. sp.

*Female* bright ferruginous: fore wing with two subbasal and one discal transverse pale lines; between the second and third line a dark pale-bordered discal spot, and an irregular oblique brown streak having a pale inner border; two ill-defined series of brown pale-bordered marginal spots. Head and a large spot on front of thorax, and anal tuft, dark chestnut-brown. Palpi at the tip black. Antennæ brown. Underside pale ferruginous.

Expanse  $1\frac{1}{2}$  inch.

N.E. Bengal. In Coll. A. E. Russell.

## I. INDICA, n. sp.

*Male* and *female*. Upperside brownish fawn-colour: fore wing with two subbasal and two discal narrow transverse paler lines with dark-brown borders, the two latter joined at their base on the posterior margin; an interrupted submarginal row of pale spots, each with a dark-brown outer border; a similar series of spots along the exterior margin. Underside paler. Palpi, head, spot on top of thorax, and anal tuft dark brown.

Expanse, ♂  $\frac{9}{10}$ . ♀ 1 inch.

Bengal. In Coll. W. S. Atkinson; F. Moore.

Larva feeds on *Flacourtia cataphracta*.—*A. Grote*.

## NOTODONTA BASALIS, n. sp.

*Male* pale purplish brown: fore wing from the base to beyond the middle dark purplish brown, the margin being defined by an irregular elbowed jet-black border, which extends obliquely to the dentation of the posterior margin; apical portion of the wing dull

silvery purplish grey, with two transverse rows of brown points and a row of suffused brownish lunules; a pale-brown marginal wavy line: hind wing and abdomen pale purplish brown; thorax, head, and palpi dark purple brown. Underside pale purplish brown, both wings with an ill-defined darker suffused discal band having a pale outer border and paler costal spot.

Expanse 2 inches.

Darjeeling. In Coll. W. S. Atkinson.

PARAVETTA, n. g., Moore.

Body moderately stout. Abdomen extending to the length of the hind wing. Proboscis rather short. Palpi porrect, small, pilose, extending to the front of the head; third joint minute, linear. Antennæ broadly pectinate to three-fourths of its length in the male, setaceous in the female. Legs large, long, fore and middle femora and tibiæ pilose beneath; hind femora naked, hind tibiæ and first joint of their tarsi pilose; middle tibiæ with a pair, and hind tibiæ with two pairs, of apical spurs. Wings elongated, narrow; costa of fore wings straight, apex slightly acuminate, exterior margin angular in the middle and posteriorly, hind margin convex in the middle; four superior veins, first, second, and fourth contiguous at the base, third remote, arising from the second at one-third of its length; hind wings trigonate, slightly acuminate at the apex.

PARAVETTA DISCINOTA, n. sp. (Pl. XLIII. fig. 3.)

*Male* chestnut-brown: fore wing with a basal narrow yellow line, with a broad obliquely elbowed transverse discal pale-pinkish-brown band, which is bordered by a narrow pale-yellowish line; within the band is a darker discal spot: hind wing very pale pinkish brown, with ill-defined paler dark-bordered discal line and darker marginal line. Underside pinkish brown, with ill-defined discal line. Body and legs dark brown, tarsi yellow. Antennæ brown; thorax with a chestnut-brown spot at the base.

*Female* much darker; fore wing with the base, apex, and the discal mark bright chestnut-brown, the discal band being greyish purple, which colour extends to the base of the costa, base of posterior margin, and pervades the exterior margin; hind wing brown. Body and legs dark purple brown, tarsi yellow; spot at base of thorax bright chestnut-brown.

Expanse, ♂  $1\frac{1}{4}$ , ♀  $1\frac{3}{4}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

LOPHOPTERYX SATURATA, Walk. Cat. Lep. Het. B. M. Suppl. p. 415.

ANODONTA PULCHERRINA, n. sp. (Pl. XLIII. fig. 4.)

*Male* ferruginous brown: fore wing with longitudinal streaks from the base, marks on the costa, and a submarginal lunulated pale-outer-bordered band bright suffused reddish brown, the interspaces being pale buff-yellow; a suffused blackish patch from the costa across

the end of the cell, beyond which is a paler patch, and an oblique lunulated double line across the disk; a hoary marginal band traversed by a narrow medial black line, and bordered by the cilia: hind wing brown, pale buff-yellow along the abdominal margin; with blackish marginal band, which is slightly hoary; two pale-yellowish lines with reddish-brown borders from the anal angle proceeding indelibly across the disk to the anterior margin. Thorax, head, palpi, and legs reddish brown. Abdomen brown, with ill-defined pale-yellow bands. Antennæ brown. Underside uniformly dull brown, except on inner margins, which are yellowish.

Expanse  $2\frac{1}{4}$  inches.

N.E. Bengal. In Coll. A. E. Russell.

*ANTHEUA DISCALIS*, Walk. (Moore, Cat. Lep. E. I. C. ii. pl. 13 a. f. 4).

*ANTICYRA COMBUSTA*, Walk. Cat. Lep. Het. B. M. v. p. 1092.

*Dinara lineolata*, Walk. ib. vii. p. 1700.

*PHALERA RAYA*, Moore, Cat. Lep. Mus. E. I. C. ii. p. 433.

*P. PARIVALA*, Moore, ib. p. 434.

*P. TENEBROSA*, n. sp.

Upperside greyish brown; fore wing with an elongated pale-grey-brown dentate-margined patch from the apex along nearly one-half of the costa, the space beneath which to a submarginal zigzag line, and the upper part of the wing to the base, is blackish brown, within which are some darker discal marks. Underside duller brown, with a medial transverse suffused blackish band having a pale outer border, and a spot on costa of fore wing.

Expanse  $2\frac{2}{8}$  inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

#### Fam. BOMBYCIDÆ.

*TRILOCHA VARIANS* (Moore, Cat. Lep. E. I. C. ii. pl. 11 a. f. 6).

*Naprepa varians*, Walk. Cat. Lep. Het. B. M. p. 1153.

#### Fam. DREPANULIDÆ.

*ORETA PAVACA*, n. sp.

*Male* and *female* ferruginous fawn-colour. Upperside covered with numerous ill-defined transverse darker striæ; these on the exterior half of the hind wing replaced by small spots disposed linearly between the veins; a suffused darker band from the apex of fore wing obliquely to abdominal margin; a silvery-white zigzag discal mark and numerous transverse silvery striæ at the base of both wings and exterior to the band of the fore wing. Underside bright ferruginous, pale yellow on the posterior half of hind wing; both wings with numerous brown striæ, which, exteriorly, assume the shape of

spots. Head, palpi, front of thorax beneath, and legs in front bright crimson.

*Female* darker fawn-colour above, with the striæ, spots, and transverse oblique band also darker and more clearly defined, the latter being also present on the underside.

Expanse, ♂  $1\frac{1}{2}$ , ♀  $1\frac{3}{4}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*O. VATAMA*, n. sp.

*Male* yellow, covered with numerous delicate transverse brown striæ: fore wing with a yellowish-ferruginous darker-bordered band, the outer border obliquely from the apex, the inner border lunulated and from near base of posterior margin to middle of the costa, where it ends in a blackish spot, beyond which is a second similar costal spot; base of the wing and along exterior margin yellowish ferruginous; hind wing with a broad subbasal yellowish-ferruginous darker-bordered band; apex slightly suffused with yellowish ferruginous; a narrow zigzag silvery-white line at the end of each cell. Underside brighter-coloured, similarly marked, but with the inner transverse line and costal spots of fore wing absent, the ferruginous colour on the hind wing extending to the base, and there being some ferruginous apical dots. Body yellowish ferruginous; front of head, palpi, and legs bright ferruginous; antennæ brown.

Expanse  $1\frac{1}{2}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*DREPANA DUPLEXA*, n. sp. (Pl. XLIII. fig. 8.)

*Male* brownish fawn-colour, darkest at the apex, palest on the hind wings; fore wing very falcate, with a double black line obliquely from the apex to middle of abdominal margin of hind wing, the inner line narrow and palest; between the line and the base of the wing some transverse pale lunulated black lines; a small blackish rounded spot with pale border before the apex near the costa; exterior to the line on the fore wing is a series of rounded spots composed of brown streaks, beyond which is a brown submarginal lunulated line; hind wing exterior to the band with short transverse brown striæ.

Expanse  $2\frac{3}{8}$  inches.

Darjeeling. In Coll. A. E. Russell.

*D. PATRANA*, n. sp.

*Male*. Upperside dull pale cinnamon-brown: fore wing with numerous minute silvery scales disposed along the veins; a subcostal and two transverse pale-yellow lines, the first of the latter denticulated with black on its outer border; exterior line dark-bordered, and joining the costal line before the apex; a suffused black oblique spot at the end of the cell; a row of black dots along the lower half of exterior margin: hind wing yellowish anteriorly, with a short transverse yellow dark-bordered line from middle of abdominal mar-



gin; three or four black dots along the exterior margin from the posterior angle. Underside yellow, with an indistinct transverse brown line, and a discal dot on fore wing.

Expanse  $1\frac{1}{2}$  inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

D. VIRA, n. sp.

*Female.* Upperside pale fawn-colour; hind wing pale yellow anteriorly; two oblique dark-brown lines crossing both wings, between which are three small white discal spots; a pale submarginal line; exterior borders of both wings defined by a brown line. Underside yellow, with the transverse lines narrow and pale brown; marginal line brown.

Expanse  $1\frac{2}{10}$  inch.

Darjeeling. In Coll. A. E. Russell.

D. SADANA, n. sp.

*Male.* Upperside yellow; fore wing with several ferruginous dark-centred blotches below the apex, and two paler spots within the cell, a blackish dot near the base of posterior margin, some indistinct blackish submarginal lunules; hind wing with several small ill-defined ferruginous-brown spots on the lower half. Underside paler, with the exterior margin below the apex, three subapical, and two discal dots pale ferruginous.

Expanse  $1\frac{3}{8}$  inch.

Darjeeling. In Coll. A. E. Russell.

#### Fam. SATURNIIDÆ.

CRICULA TRIFENESTRATA, Helfer (H.-Schæff. Lep. Exot. pl. 17. f. 80, ♀).

*Saturnia zuleika*, Westw. Orient. Ent. pl. 11. f. 1, ♂.

C. DREPANOIDES, n. sp.

*Male* pale fulvous, suffused with grey on the fore wing to near the apex, and at the angles of the hind wing; exterior margins bordered with fulvous red; a narrow dark-purple-brown band obliquely from the apex to middle of inner margin, continuing across the hind wing near the base; fore wing with a conglomerated series of large and small clear yellow discal spots, a subbasal zigzag and a submarginal lunulated reddish line; hind wing with five yellowish brown-bordered discal spots, the central one the largest and medially semitransparent, a discal and submarginal lunulated reddish lines.

Expanse  $2\frac{1}{8}$  inches.

Darjeeling. In Coll. W. S. Atkinson, Esq.

SALASSA LOLA, Westw. Orient. Ent. pl. 12. f. 3.

ACTIAS SELENE, M<sup>c</sup>Leay, Leach's Zool. Misc. pl. 70 (Cram. t. 31. f. A, B).

PROC. ZOOL. SOC.—1865, No. LIII.



A. MÆNAS, Doubleday (Westw. Orient. Ent. pl. 22).

ANTHERÆA PAPHIA, Linn. (Cram. t. 146. f. A, t. 147. f. A).

Balasore; Bauleah.

A. FRITHI, Moore, P. Z. S. 1859, pl. 65. f. 1.

A. HELFERI, Moore, ib. pl. 64. f. 2.

A. ASSAMA, Helfer (Westw. Orient. Ent. pl. 20).

A. MIRANDA, Atkinson (Moore, Trans. Ent. Soc. 1865, p. 424).

SATURNIA GROTEI, Moore, P. Z. S. 1859, pl. 65. f. 2.

S. ANNA, n. sp.

*S. anna*, Atkinson, MS.

*Male* dark olive-green: fore wing powdered with yellow to the discal zigzag band, which has a contiguous outer lunulated olive-brown band, and a double series of yellow triangular marginal spots, a bluish and red apical patch and an adjacent white-bordered black spot, a blackish pale-yellowish-bordered patch at the base of the wing, and a subbasal irregular transverse narrow blackish band; ocelli dull crimson, with blackish border, white and purple inner circle, and blackish centre: hind wing purplish brown at the base, suffused with crimson near the ocellus; a subbasal irregular transverse pale inner-bordered blackish band; two transverse discal zigzag bands and marginal double spots as in fore wing. Body purple brown; thorax with a yellowish collar; abdomen with a yellowish waistband. Antennæ yellowish.

Expanse  $4\frac{1}{2}$  inches.

Darjeeling. In Coll. W. S. Atkinson, Esq.

LOEPA KATINKA, Westw. Orient. Ent. pl. 1. f. 2.

L. SIKKIMA, n. sp.

*Loepa sikkima*, Atkinson, MS.

Distinguished from *L. katinka* by its smaller size, the male differing in being of a darker yellow, the fore wing having the exterior margin of a clay-brown colour, and the space within the transverse zigzag discal line from the costa dusky.

Expanse, ♂  $3\frac{1}{4}$ , ♀  $3\frac{3}{4}$  inches.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson; F. Moore.

*Note.*—“*L. katinka* also occurs at Darjeeling (but sparingly), and is always larger than the dark form, which appears earlier in the year (beginning of August). *L. sikkima* inhabits the hot valleys, whereas *L. katinka* is found at from 5000 to 7000 feet elevation.”  
—*W. S. Atkinson in epistolâ.*

ATTACUS ATLAS, Linn. (Cram. t. 381. f. C).<sup>7</sup>

A. EDWARDSII, White, P. Z. S. 1859, pl. 57.

A. CYNTHIA, Drury, Ins. ii. pl. 6. f. 2.

A. RICINI, Jones, Trans. Linn. Soc. 1804, p. 42.

*Saturnia arrundi*, Milne-Edw. Bull. Agric. Fr. 1840, pl. 10.

*A. lunula*, Walk. Cat. Lep. Het. B. M. p. 1221.

Fam. LIMACODIDÆ.

SCOPELODES UNICOLOR, Westw. Nat. Libr. Ins. p. 222.

MIRESA ALBIPUNCTA, H.-Schæff. Lep. Exot. f. 179.

Darjeeling.

M. CASTANEIPARS, n. sp.

Glossy creamy-white, with pale glaucous reflections: fore wing with a large irregular-shaped dark-chestnut-brown subbasal patch, which is paler, intersected by the veins and a transverse whitish line; thence to the posterior angle and gradually upwards the space is suffused with pale chestnut-brown; a small blackish spot near the costa one-third from the apex; exterior margin and end of the veins defined by a blackish line: hind wing suffused with pale chestnut-brown at the base. Thorax pale chestnut-brown; tip of abdomen chestnut-brown. Palpi above and fore legs in front blackish. Under-side creamy-white; fore wing suffused with black along the costa and beneath the cell.

Expanse  $1\frac{3}{10}$  inch.

Darjeeling. In Coll. W. S. Atkinson; Brit. Mus.

CANDYBA PUNCTATA, Walk. Cat. Lep. Het. B. M. vii. p. 1761.

*Belgoræa subnotata*, Walk. ib. Suppl. p. 497.

LIMACODES RETRACTATA, Walk. Cat. Lep. Het. B. M. Suppl. p. 487.

Darjeeling.

TRISULA VARIEGATA, Moore, Cat. Lep. E. I. C. ii. pl. 13 a. f. 1.

Fam. LASIOCAMPIDÆ.

LEBEDA PLAGIFERA, Walk. Cat. Lep. Het. B. M. vi. p. 1459.

L. FERRUGINEA, Walk. ib. p. 1458, ♂.

*L. ampla*, Walk. ib. p. 1412, ♀.

L. NOBILIS, Walk. ib. p. 1456.

L. BUDDHA, Lefebvre (Moore, Cat. Lep. E. I. C. ii. pl. 12 a. f. 2, ♂ ♀).

*L. plagiata*, Walk. Cat. Lep. Het. B. M. p. 1464, ♂.

L. REPANDA, Walk. ib. p. 1460.

*L. VINATA*, n. sp.

*Male* ferruginous grey: fore wing with the edge of costa ferruginous; three very oblique transverse narrow dark-ferruginous lines, the first and second straight with a pale-whitish inner border and having a blackish dot medially between them, third or outer line undulated, with yellow outer border: hind wing suffused with dark ferruginous along the inner margin, terminating irregularly across the disk. Cilia of both wings dark ferruginous. Palpi blackish. Head and thorax with a dark-ferruginous band down the middle. Abdomen dark ferruginous above, paler towards the tip. Underside—fore wing dark ferruginous, with the veins defined by yellow lines; the two outer oblique transverse lines and spot dark brown, the interspace yellow posteriorly; a grey patch at the apex: hind wing grey, irrorated with dark ferruginous; a subbasal indistinct dark transverse line and two irregular pale discal streaks.

Expanse  $2\frac{5}{8}$  inches.

Darjeeling. In Coll. A. E. Russell.

*MUSTILIA FALCIPENNIS*, Walk. ib. Suppl. p. 581.

Darjeeling.

*ESTIGENA PARDALE*, Walk. (Moore, Cat. Lep. E. I. C. ii. pl. 13 a. f. 1, ♂ ♀).

*BHARETTA*, n. g., Moore.

*Male*. Body moderately stout, extending beyond the hind wings. Head prominent. Palpi porrect, hairy, extending beyond the head. Antennæ pectinated, curved backwards. Legs stout, densely clothed with hairs; hind tibiæ with two short apical spurs. Wings moderate; fore wings slightly acuminate at the tips, angulated exteriorly below the apex and more slightly before the posterior angle; hind wings rounded exteriorly.

*BHARETTA CINNAMOMEA*, n. sp. (Pl. XLIII. fig. 6.)

*Male*. Upperside cinnamon-colour, somewhat fuliginous below the apex, with purple hyaline gloss exteriorly; fore wing with a brown pale-inner-bordered transverse streak obliquely from one-third of the posterior margin to the apex, three small black subbasal spots, two being within the cell, the third above it; hind wing with a transverse oblique very indistinct darker band.

Expanse 2 inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

*ANDRACA BIPUNCTATA*, Walk. Cat. Lep. Het. B. M. Suppl. p. 582.

Darjeeling.

*A. TRILOCHOIDES*, n. sp.

*Male*. Upperside dark purple brown; exterior margins not festooned: fore wing with three ill-defined blackish transverse undula-

ting lines, the third sharply retracted towards the costa; a deep-black spot between the first and second lines; thickly along the costa and before the apex, and slightly along the transverse lines, are minute white scales; two medially submarginal spots composed of yellowish scales: hind wing pale at the apex, brown at the base, with two transverse black lines, the inner one nearly straight, the outer broadly lunulated in the middle and having a brown exterior border; a black discal dot. Abdomen with a blackish waist and tip of anal tuft, the latter with white points. Underside ferruginous brown, with two transverse black lines and discal spot, the outer line with pale exterior border; abdominal margin with a black-and-white fringe, and a black medial tuft of rather long hairs.

Expanse 2 inches.

Darjeeling. In Coll. F. Moore and W. S. Atkinson.

#### GANGARIDES, n. g., Moore.

*Apona* (part.), Walker.

Antennæ moderately pectinated to near the tip. Palpi thick, projecting beyond the head; third joint short, ascending. Body stout; abdomen long, extending beyond the hind wings. Legs stout, rather densely clothed with hairs. Fore wings long, acuminate at the tips; costa arched in the middle; exterior margin concave below the apex, sinuous; subcostal vein with two branches. Hind wings trigonate; apex rounded; exterior margin slightly sinuous.

#### GANGARIDES ROSEA.

*Apona rosea*, Walk. Cat. Lep. Het. B. M. Suppl. p. 513.

Darjeeling.

G. DHARMA, n. sp. (Pl. XLIII. fig. 7.)

Upperside—fore wing dull yellow, irrorated with minute brown scales; two subbasal and two discal transverse brown lines, a submarginal series of brown pale-inner-bordered lunules; a small raised white spot between the second and third transverse lines: hind wing ochreous yellow, tinted with rosy. Body dull yellow, irrorated with brown. Antennæ pale brown. Underside buff-yellow, densely irrorated with greyish brown, appearing in parts in patches. Both wings with an ill-defined blackish transverse line. Cilia brown.

Expanse  $3\frac{1}{2}$  to  $3\frac{3}{4}$  inches.

N.E. Bengal. In Coll. A. E. Russell.

TRABALA VISHNU, Lefebvre, Zool. Journ. iii. p. 207.

*Amydoma prasina*, *A. pallida*, *A. basalis*, Walk. Catal. pp. 1415-1417, ♂ ♀.

T. MAHANANDA, n. sp.

Differs from *T. vishnu* in its much larger size, the male distinguished by the dark bands of the fore wing being more oblique, and the female by the transverse bands, large subbasal patch, discoidal

spot, and submarginal series of spots more prominent and of a rufous brown.

Expanse, ♂ 2, ♀  $3\frac{1}{4}$  inches.

N.E. Bengal. In Coll. A. E. Russell.

TARAGAMA GANESA, Lefebvre, Zool. Journ. iii. p. 211, ♂.

*Bombyx siva*, Lefebvre, ib. p. 210, ♀.

*Megasoma albicans* et *M. venustum*, Walk. Cat. B. M. vi. pp. 1449, 1450, ♂ ♀.

SUANA BIMACULATA, Walk. (Moore, Cat. E. I. C. ii. pl. 13 a. f. 2, ♂ ♀).

*Lebeda concolor*, Walk. ib. p. 1463, ♂.

*Suana ampla*, Walk. ib. p. 1502, ♀.

#### Fam. COSSIDÆ.

COSSUS CADAMBÆ, n. sp.

*C. cadambæ*, Atkinson, MS.

Upperside—fore wing dark greyish brown, marked with numerous short black striæ and transverse irregular black lines; hind wing pale greyish brown, with numerous brown striæ. Underside pale greyish brown, covered with numerous short brown striæ.

Expanse, ♂  $1\frac{1}{2}$ , ♀ 2 inches.

Bengal. In Coll. A. E. Russell; F. Moore.

Note.—According to Mr. Atkinson, "this species is rather common about Calcutta; the larva perforating the wood of *Nauclea cadamba*. The larva is very like that of *C. ligniperda*, except that it is much smaller, and when full-grown of a darker colour—reddish chestnut. The moth appears at intervals from the end of February till November."

ZENZERA MINEUS, Cram. t. 131. f. D.

Z. INDICA, Boisd., H.-Schæff. Lep. Exot. f. 166.

#### Fam. HEPIALIDÆ.

PHASSUS SIGNIFER, Walk. Cat. Lep. B. M. vii. p. 1568.

### DESCRIPTION OF PLATES XLI., XLII., XLIII.

#### PLATE XLI.

Fig. 1. *Athyma chevana*, p. 763.

2. *Apatura sordida*, ♂, p. 765.

3. *Adolias balarama*, p. 766.

4. *Debis visrava*, p. 768.

5. *Zophoessa baladeva*, p. 769.

6. *Polyommatus varunana*, p. 772.

7. — *kandura*, p. 772.

Fig. 8. *Polyommatus sangra*, p. 772.

9. *Lycænesthes bengalensis*, ♂,

p. 773.

10. *Poritia hewitsoni*, ♂, p. 775.

11. *Myrina ravata*, p. 776.

12. *Miletus drumila*, ♂, p. 777.



## PLATE XLII.

- |   |   |
|---|---|
| Fig. 1. <i>Satarupa gopala</i> , ♂, p. 780. | Fig. 5. <i>Vithora indrasana</i> , p. 795.    |
| 2. <i>Darpa hanria</i> , p. 781.            | 6. <i>Philopator basimaculata</i> , p. 800.   |
| 3. <i>Capila jayadeva</i> , ♂, p. 785.      | 7. <i>Cadphises maculata</i> , ♂, p. 801.     |
| 4. <i>Pisola zennara</i> , p. 786.          | 8. <i>Canerkes eusechemoides</i> , ♀, p. 802. |

## PLATE XLIII.

- |  |   |
|--|---|
| Fig. 1. <i>Grotea elegans</i> , ♀, p. 797. | Fig. 6. <i>Bharetta cinnamomea</i> , ♂, p. 820. |
| 2. <i>Heracula discivitta</i> , p. 804.    | 7. <i>Gangarides dharna</i> , ♂, p. 821.        |
| 3. <i>Paravetta discinota</i> , p. 814.    | 8. <i>Drepana duplexa</i> , p. 816.             |
| 4. <i>Anodonta puleherrima</i> , p. 814.   | 9. <i>Bizone divakara</i> , ♂, p. 798.          |
| 5. <i>Stauropus sikkimensis</i> , p. 811.  |   |

13. ON A NEW SPECIES OF HARRIER FROM NEW CALEDONIA.  
 BY JOHN H. GURNEY, F.Z.S.

(Plate XLIV.)

Some time since, I received from M. E. Verreaux, of Paris, two specimens of the Harrier of New Caledonia, which appear to me to belong to an undescribed species very nearly allied to, yet distinct from, the Harrier found in Joanna Island and in the Island of Réunion, to which M. Jules Verreaux has given the name of *Circus maillardi*, and which was figured and described in the first series of the 'Ibis,' 1863, p. 163.

I propose to assign to this new species the name of my friend Mr. Wolf, to whose talented pencil all students of zoology, and especially those who study the birds of prey, are so greatly indebted.

The specimens of *Circus wolfi* which I have received from M. Verreaux appear to me to be both males, one evidently in the plumage of the first year, the other adult or nearly so.

On comparing the latter with an adult male of *Circus maillardi* recently obtained in Joanna Island, and liberally presented to the Norwich Museum by Mr. Edward Newton, I can find little or no difference in size or form, except that the quill-feathers of the wings and tail are slightly broader in *C. maillardi* than in *C. wolfi*, and that the proportionate length of the primaries in the two species does not appear identical.

In both species the third primary is the longest, the fourth next, and then the second; but in *Circus maillardi* the fifth equals the second in length, whilst in *C. wolfi* it falls decidedly short of it; again, in *C. maillardi* the sixth primary is slightly longer than the first, whilst in *C. wolfi* the relative proportions of these two feathers are reversed.

The colouring of the upper part of the head and neck, also that of the back, rump, and upper side of the wings, is extremely similar in both species; but it is slightly darker in the adult males of *Circus maillardi*, and the contrast between the black and grey feathers